PROSCAN®

Monitor/Receiver
Owner's Manual

Models: PS27112, PS20112

Features

First-Time Operation

Detailed Operating Instructions

4 Front Panel Controls
5-7 Remote Control (TV Functions)
8 Video Menu
9 Audio Menu
10 Stereo and SAP Broadcasts
11 Expanded Stereo
12 Setup Menu
13 Closed Captioning
14 Sleep Timer
15 Alarm
16 Labeling Channels
17 Parental Control
18-19 Programming Channel Memory
20 Setting up VCR Channels
21 Changing Antenna Input
22 Setting up Cable Box Channel
23-24 Programming Remote to Control VCRs
25-26 Programming Remote to Control Audio

Optional Accessories

27 Optional Stand
28-29 Accessory Cables
29-30 Accessory Order Form

Monitor Panel and Connections

31 Monitor Panel
32 Home Antenna Connections
33-34 Cable-TV Connections
35 Programming Remote to Control Cable Box
36 Cable-TV Information and Channel Chart
37-40 VCR Connections
41-42 Camcorder Connections
43 Amplifier or Cassette Tape Deck
44 Laser Disc Players, Computer, etc.
44-45 External or Surround Speakers

Reference Section

46-47 Trouble Checks
47 Warranty
48 Design Specifications
48 Cleaning and Care
49 Index (Inside Back Cover)
50-51 Quick-Reference Guide (Inside Back Cover)

Important Information

WARNING

To prevent fire or shock hazard, do not expose this TV to rain or moisture.

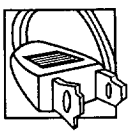
WARNING

RISK OF ELECTRIC SHOCK
DO NOT OPEN

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol indicates "dangerous voltage" inside the product that presents a risk of electric shock or personal injury.

This symbol indicates important instructions accompanying the product.



To prevent electric shock, match wide blade of plug to wide slot, fully insert.

Pour éviter les chocs électriques, introduire la lame la plus large de la fiche dans la borne correspondante de la prise et pousser jusqú au fond.

Cautions

Do not defeat the safety feature of the plug. The wide blade fits into the wall socket only one way. If you need an extension cord, make sure it matches the plug of the TV.

Operate TV only on 120 volts, 60 Hz AC power (normal house power) .

For safety reasons, make sure any equipment or accessories connected to this product bears the UL listing mark or, if purchased and used in Canada, the CSA certification mark. If in doubt, contact qualified service personnel.

FCC Regulations state that unauthorized changes or modifications to this

Note To Cable TV Installer

This reminder is provided to call your attention to Article 820-40 of the National Electrical Code (Section 54 of the Canadian Electrical Code, Part 1) which provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building as close to the point of cable entry as practical.

Product Registration

Please fill out the product registration card and return it immediately. Returning this card allows us to contact you if needed.

Keep your sales receipt to obtain warranty parts and service and for proof of purchase. Attach it here and record the serial and model numbers in case you ever need them. The numbers are located on the back of the TV.

Model No._____

Serial No._____

Purchase Date: _____

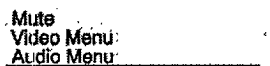
Dealer/Address/Phone:_____

_____

_____

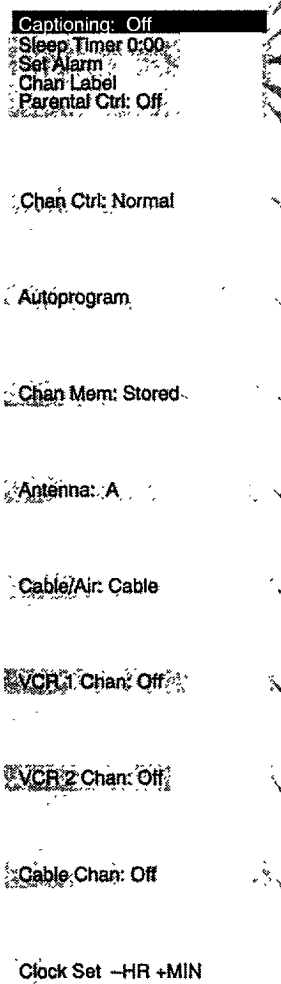
SETUP MENU

1 Repeatedly press MENU to select SETUP MENU and then press + to display the functions in the SETUP MENU.



2 Select function by repeatedly pressing MENU to move down the screen.

MENU

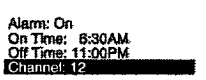


3 Follow instructions below for desired function.

The CAPTIONING feature lets you display a program's sound as words on the TV screen. Four types of closed captioning are available. Select CAPTIONS 1 for full translation of the primary language in your area. Select CAPTIONS 2 or secondary language translation, simplified English, or nothing at all. Both TEXT 1 and TEXT 2 display on-screen boxes containing general information not related to closed captioning. *Details are on page 19.*

To set the SLEEP TIMER, repeatedly press + or – to select the length of time you want the TV to stay on. To cancel, press + or – to change the setting to 0:00. *Details are on page 19.*

Press + to display the ALARM functions. Turn ALARM ON and OFF by pressing +. Enter ON TIME and OFF TIME by pressing – to set the hour and + to set the minutes. Enter CHANNEL you want TV to tune by pressing CHANNEL up or down and then pressing +. *Details are on page 20.*



To label channels press +. Four blank letter blocks will appear. Press and hold VOLUME up or down button on remote until the letter you want in the first block appears. Then press + to move to the next block. Repeat until name is complete. *Details are on page 22.*

To turn on PARENTAL CTRL, press +. When this function is set to ON, all channels that have been LOCKED out with the next function called CHAN CTRL will not be viewable. To lock out channels, select the CHAN CTRL function. Then press CHANNEL up or down to select the channel and press + to change the setting from NORMAL to LOCKED. *Details are on page 23.*

To start autoprogramming, press +. The TV will automatically cycle through all channels and place active channels in memory. *Details are on page 24.*

To add or erase individual channels from memory, select the channel with the number buttons and then press + to add or – to erase. *Details are on page 25.*

To switch antenna inputs, press + or –. You will probably not use this function unless you have something connected to both the ANTENNA A and ANTENNA B inputs on the back of the TV. *Details are on page 21.*

To change the CABLE/AIR setting, press +. If you have cable-TV, this function should be set to CABLE. If you have a home antenna, this function should be set to AIR.

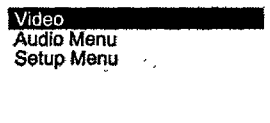
To set the VCR 1 CHANNEL first enter the channel number by pressing two number buttons on the remote and then press +. The channel you enter here is the channel to which the TV will automatically tune when you later press the VCR1 button on the remote. *Details are on page 26.*

To set the VCR 2 CHANNEL first enter the channel number by pressing two number buttons on the remote and then press +. The channel you enter here is the channel to which the TV will automatically tune when you later press the VCR2 button on the remote. *Details are on page 26.*

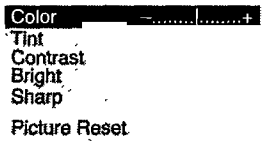
To set the CABLE CHANNEL first enter the channel number by pressing two number buttons on the remote and then press +. The channel you enter here is the channel to which the TV will automatically tune when you later press the CABLE button on the remote. *Details are on page 27.*

To set the clock, press and hold – to set the hour. Then press and hold + to set the minutes.

1 Repeatedly press MENU to select VIDEO MENU and then press + to display the functions in the VIDEO MENU.



2 Select function by repeatedly pressing MENU to move down the screen.



3 Press + to increase setting or press – to decrease setting.

The PICTURE RESET function will return video functions to factory settings.

Adjusting for a Color Picture that Pleases You

1 Decrease color to minimum. This will leave a black-and-white image on the screen.

2 Adjust contrast until the picture pleases you.

3 Adjust brightness until the black parts of the picture appear black. You may need to wait until the picture shows something you're sure is black. Be careful not to lose the details in darkly shaded areas.

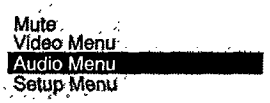
4 Increase color until you reach a pleasing level of intensity.

5 Adjust tint until flesh tones or other color objects appear natural.

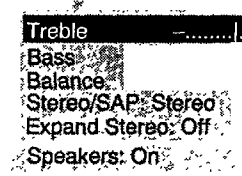
6 Adjust sharpness for a pleasing level of picture sharpness. (For weak signals, the picture may be more pleasing with sharpness decreased.)

Audio Menu

1 Repeatedly press MENU to select AUDIO MENU and then press + to display the functions in the AUDIO MENU.



2 Select function by repeatedly pressing MENU to move down the screen.



3 Follow instructions below for desired function.

To adjust TREBLE, BASS, or BALANCE functions, press + to increase or press – to decrease the setting.

To prepare the TV to receive stereo, press + to set function to STEREO. Your TV will automatically reproduce stereo when received.

If you want the TV to automatically expand stereo signals when received, press + to set the EXPAND STEREO function to ON. The STEREO/SAP function above must also be set to STEREO.

To turn off TV's speakers, press + to change setting to OFF. You will want to leave the TV's speakers turned ON unless you connect an amplifier to the TV that has its own set of speakers.

So Advanced. Yet So Simple.

Your ProScan television is more than state-of-the-art technology. It's technology tailored to you. Features designed to deliver viewing and listening enjoyment beyond expectations. Innovation and simplicity of operation become one–ProScan.

Improving Your Image

- **A Cleaner Picture:** Digital Comb Filter extends resolution and minimizes color interference patterns for greater detail.
- **A Cleaner Picture Tube:** The Anti-Static Faceplate helps prevent dust build-up.
- **No Glare™ Picture:** Anti-Glare Lithium Silicate Faceplate virtually eliminates glare while enhancing contrast.
- **Increased Clarity:** Up to 560 lines of horizontal resolution*, surpassing the capabilities of all available signal sources.

* through S-VIDEO connector.

Sound Thinking

- **Broadcast Stereo with SAP** (Second Audio Program) *For details, see page 10.*
- **5 Watts Per Channel ***
- **Expanded Stereo** *For details, see page 11.*
- **dbx** Noise Reduction**

*RMS rating, into 8 ohms, 50 to 20,000 Hz ±3db, with less than 1% THD.

**dbx is a registered trademark of Carillon Electronics Corp.

Creative Entertainment

- **Channel Labeling** lets you label channel numbers with names up to four letters (e.g. NBC, VH–1, ESPN). *For details, see page 16.*
- **181 Channel capability in U.S.A.** – Cable Compatible* *For details, see page 36.*
- **Closed Captioning** *For details, see page 13.*
- **Commercial Skip** *For details, see page 7.*
- **Sleep Timer** *For details, see page 14.*
- **Alarm Timer** *For details, see page 15.*
- **Parental Control** *For details, see page 17.*
- **Previous Channel Control** *For details, see page 7.*

*Check your cable company's compatibility requirements. Channels 95, 96, and 97 are not applicable in Canada, so the total channel count for Canada is 178.

One Minute Manual

- **On-Screen Menus** for simple operation of picture, sound, and set-up functions by remote control. *For details, see pages 8, 9, and 12.*
- **AutoProgramming** automatically searches for and stores all active channels. Eliminates the need for manual set-up. *For details, see page 18.*
- **Frequency Synthesis Tuning** automatically and accurately tunes each channel.
- **Automatic VCR Setup** with the push of a button, your TV is ready for VCR play: both TV and VCR turn on and TV tunes to correct channel/input. *For details, see page 20.*
- **Automatic Cable Box Setup** offers convenience when cable company requires you to use cable box. *For details, see page 22.*
- **On-Screen Clock/Channel Display** *For details, see page 4.*
- **Picture Reset** *For details, see page 8.*

Networking

Gold Plated Phono Jacks for Superior Performance:

- **Two Sets of Audio/Video Inputs** for VCR, Laser Disc player, Camcorder etc. *For details, see pages 37-44.*
- **One Set of Audio/Video Outputs** for video dubbing. *For details, see page 39.*
- **One Set of Volume-Controlled Audio Outputs** to retain remote volume when connected to an external amplifier. *For details, see page 44.*

Other Connections to Expand Your System:

- **S-Video input connector** for direct Y/C input to get the most from your S-VHS VCR, Camcorder, etc. *For details, see pages 40 and 41.*
- **Two Speaker Jacks** to allow hook up of optional external or surround sound speakers. *For details, see pages 44-45.*
- **Dual RF Inputs** to allow direct connection of up to two basic cable, cable box, or other RF sources. *For details, see pages 33-34.*
- **Front-Mounted Stereo Headphone Jack** for private listening with optional headphones. *For details, see page 4.*

At Your Command

- **The ProScan Universal Remote** is preprogrammed so there's no need to teach additional or new codes. Operation is as easy as entering a channel. It operates all major TV and VCR functions. Operates the basic functions of 60 different VCR brands and 28 brands of cable boxes, eliminating the need for additional remotes. Remote can also control some brands of audio equipment.

At Your Service

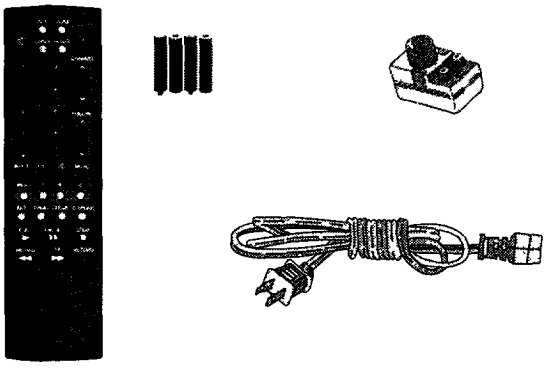
Our Human Touch policy offers all these valuable benefits:

- **1-800-ProScan** Call at any time our 24-hour-a-day, 7-day-a-week information service.
- **Nationwide Service Centers**
- **ProScan Limited Warranty for U.S.A.** In-home service of all parts and labor for one year, picture tube for two years. *For details, see page 47.* A separate warranty for Canada is enclosed with all sets sold in Canada.

The steps below will help you get your TV connected and working quickly. The page numbers on which you can find detailed instructions for each of these steps are also listed for your convenience.

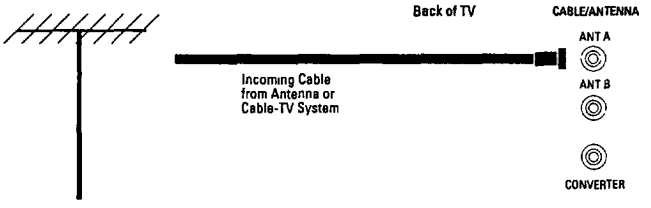
1 Unpack TV and accessories.

The accessories that came packed with your TV include a remote control, four AAA batteries, power cord, and antenna adapter.



2 Connect antenna or cable-TV system.

Most antenna or cable-TV systems can be connected as shown here.

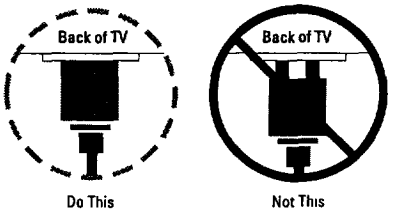


- *Details for connecting a home antenna to your TV are on page 32.*
- *Details for connecting a cable-TV system to your TV are on page 33-34.*
- *Details for connecting a VCR to your TV are on pages 37-40.*

3 Attach power cord.

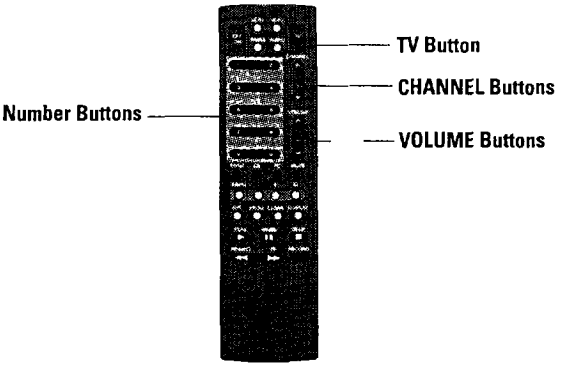
First attach the flat end of the power cord completely into the connector on the back of your TV, and then plug the other end into a wall outlet.

Be sure to insert the plug completely.



4 Install batteries in remote control.

Details are on page 5.



5 Turn on TV, adjust the volume, and select a channel.

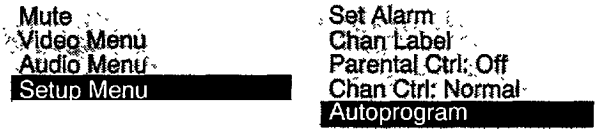
1 To turn on the TV, press the TV button on the master remote or press the POWER button on the simple remote. When using the remote, remember to point it at the front of the TV.

2 Press the VOLUME up or down button to adjust the volume to a desired level.

3 Press the CHANNEL up or down button to select the next channel in memory. You can also press two number buttons to select a channel. Channels 2-13 and 91 were programmed into the channel memory at the factory, so pressing CHANNEL up or down stops at these channels only. When you start the autoprogramming feature (described next), your set will automatically scan through all channels and place the active channels for your area into its channel memory.

6 AutoProgram the TV's channel memory.

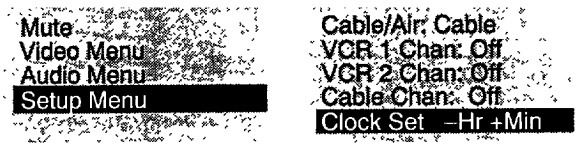
1 To start the TV autoprogramming itself, press the MENU button repeatedly to select the SETUP MENU and then press the + button to display the setup functions. Press MENU again to select the AUTOPROGRAM function, then press +. *Details are on page 18.*



2 You can also add and delete channels from memory as desired. Press MENU repeatedly to select the SETUP MENU, then press + to display the setup functions. Press MENU repeatedly to select the CHAN MEM function, then select the desired channel number and press + to add or – to erase the channel. *Details are on page 19.*

7 Set the clock.

1 Repeatedly press the MENU button to select the SETUP MENU and then press +. Press MENU repeatedly again to select the CLOCK SET display.



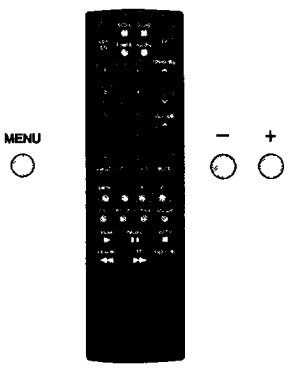
2 Press and hold the – button to select the correct hour. Then press and hold the + button to select the correct minute.

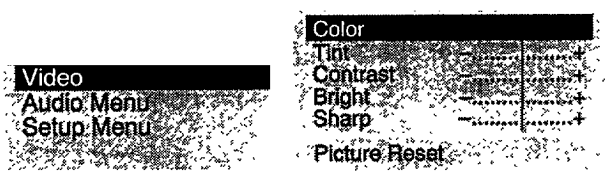
3 The correct time will now appear on the screen whenever you change channels or press the DISPLAY button.

Note: If power is interrupted for an extended time, you will need to reset the clock.

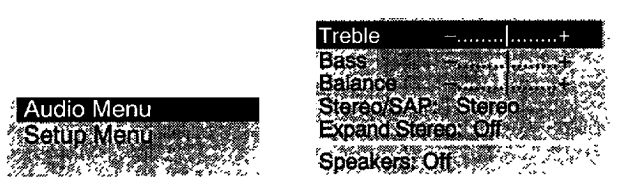
8 Review menus.

1 To see the video menu, repeatedly press MENU button to select VIDEO MENU and then press +. Repeatedly press MENU to select desired function and then press + or – to adjust it. *Details are on page 8.*

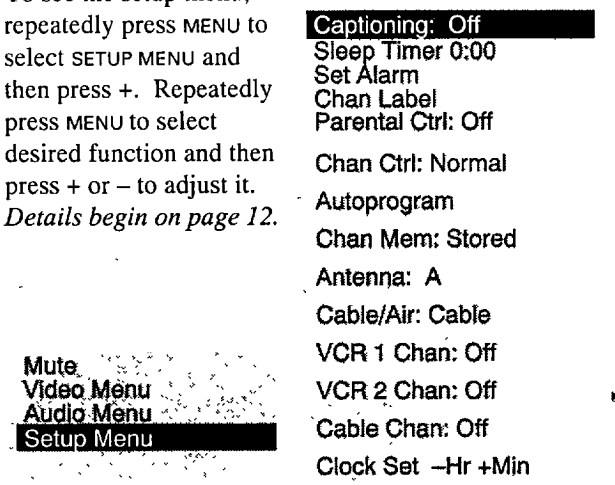




2 To see the audio menu repeatedly press MENU to select the AUDIO MENU and then press +. Repeatedly press MENU to select desired function and then press + or – to adjust it. *Details begin on page 9.*



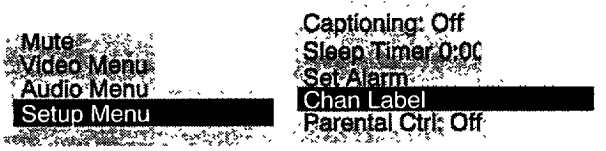
3 To see the setup menu, repeatedly press MENU to select SETUP MENU and then press +. Repeatedly press MENU to select desired function and then press + or – to adjust it. *Details begin on page 12.*



9 Label channels if desired.

The labeling feature lets you add names (or labels) to channels as desired.

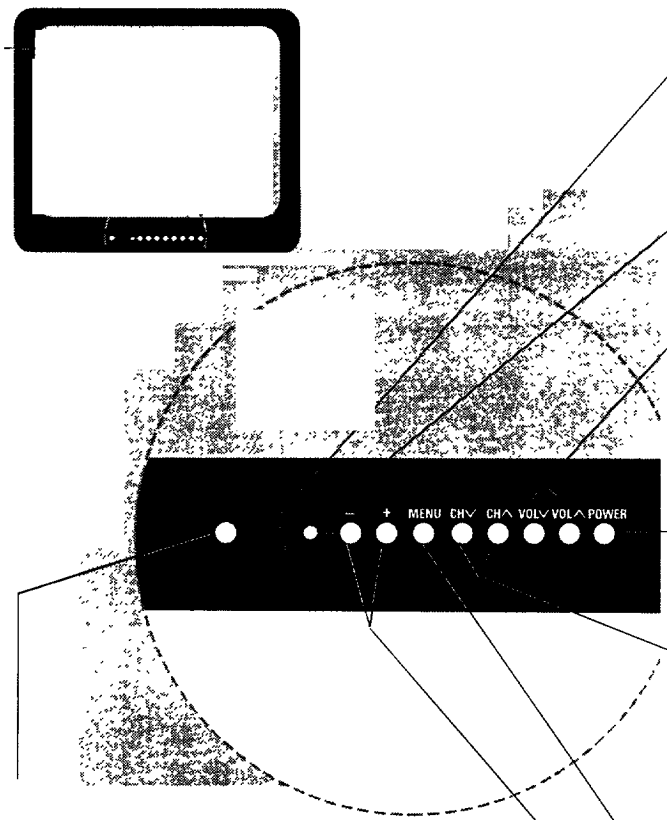
1 To label a channel, repeatedly press MENU to select the SETUP MENU and then press +. Repeatedly press MENU to select the CHAN LABEL display, and then press + to enter the function.



2 Select the channel number you want to label. Repeatedly press VOL up or down on the remote control to select the desired character, and then press + to move to the next character block. When the first name is finished, you can select another channel to label. *Details are on page 16.*

Front Panel Controls

TIME AND CHANNEL NUMBER DISPLAYS show the current time (once set) and channel number whenever you turn on the TV, change channels, or press the remote's DISPLAY button. These displays also appear whenever you change volume with the VOLUME buttons on the front of the TV.



REMOTE CONTROL SENSOR receives commands from the remote control. When using the remote control, point it toward this sensor.

POWER INDICATOR lights whenever the TV is turned on.

VOLUME BUTTONS
Press VOLUME up to increase volume, or press VOLUME down to decrease volume. The volume display will automatically appear on the screen when you press the VOLUME buttons.

POWER BUTTON
Press once to turn on TV. Press again to turn off TV.

CHANNEL BUTTONS
Press CHANNEL up to see the next higher channel in memory, or press CHANNEL down to see the next lower channel in memory. Your TV will automatically program channels into the channel memory for you when you start the AUTOPROGRAM feature *described on page 18.* You can also add or erase individual channels as desired *as described on page 19.*

MENU BUTTON
Press MENU repeatedly until the menu you want to display is selected, then press + or –. Next press MENU repeatedly to select the function you want to adjust and then press + or – to adjust the setting. *Details about using each function begin on page 8.*

– AND + BUTTONS
Use these buttons after you have pressed the MENU button to enter or adjust functions.

STEREO HEADPHONE JACK lets you connect an optional headphone to enjoy private listening without disturbing others. If the plug on your headphones does not fit this jack, adapters are available from your local electronics supply store.

Plugging in headphones will not automatically mute the sound from the TV. This special feature enables someone with a hearing impairment to attach a set of headphones with separate volume control and enjoy a program with others in the same room listening at a lower volume. You can also enjoy private listening if desired. Here's how to completely mute the sound except for what's coming through the headphones.

1 Change the SPEAKERS: ON/OFF function to the OFF setting *as described on page 9.*

2 If an optional amplifier is connected to the TV, turn off the amplifier to prevent sound from coming through it.

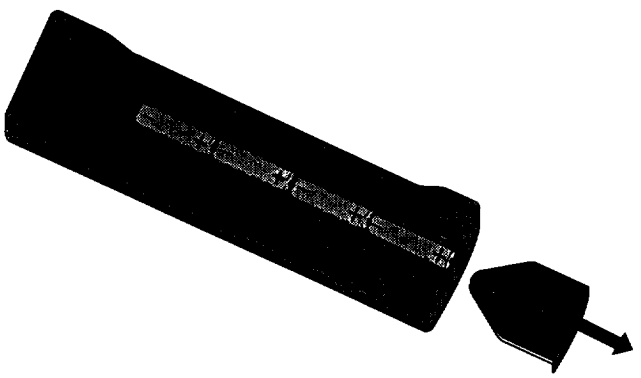
Operating Remote Control

Before attempting to operate the remote control, install its batteries as shown below.

Installing/Replacing Batteries

1 Turn remote control face down.

2 Press down on the ridged area of the battery cover and slide it off.



3 Install four "AAA" batteries as shown.

4 Replace the cover and turn remote over (face up).

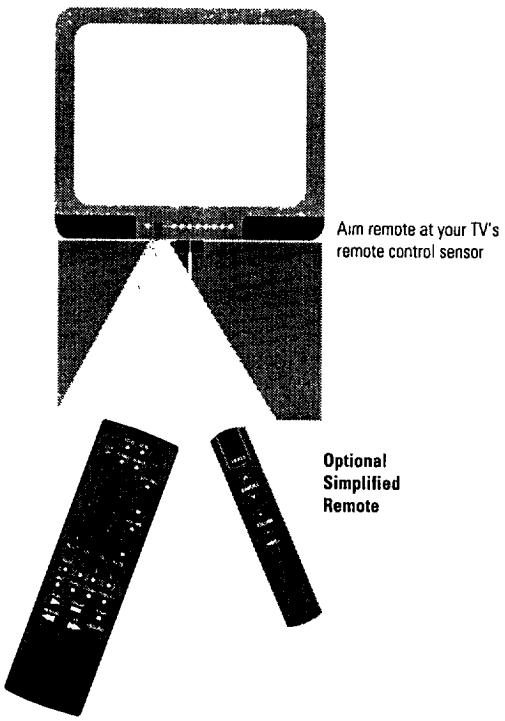
Notes: Replace the batteries when the TV fails to respond to the remote control.

If you programmed your master remote to control other components, you may have to reprogram the code numbers when you change batteries. Try not to press any buttons while changing batteries.

Never place anything heavy on top of the remote control or lay it upside-down. This may accidentally depress the buttons for a long time and discharge the batteries.

Effective Range of Remote Controls

Aim either remote control at your TV's remote control sensor. The remote controls produce an invisible (infrared) beam that travels in a straight line much as the beam of a flashlight. For this reason, when operating either one of the remote controls, you must point it directly at the front of the TV without objects between that can block the infrared light beam.



Simplified Remote

This optional remote can also be used to operate the basic functions of your TV. Order form is on page 29.

POWER BUTTON
Turns TV on and off.

CHANNEL BUTTONS
Press CHANNEL up to select next higher channel in memory or press CHANNEL down to select next lower channel. You can add and erase channels in memory as desired. *Details are on pages 18-19.*

VOLUME BUTTONS (ALSO + AND – BUTTONS)
Press + to increase volume and press – to decrease volume.
Also use these buttons after you have pressed the MENU button to enter or adjust functions. *Details begin on page 8.*

MENU BUTTON
Press MENU repeatedly until the menu you want to display is selected, then press + or –. Next press MENU repeatedly to select the function you want to adjust and then press + or – to adjust the setting. *Details begin on page 8.*

Basic Operation Theory

Step 1
Component Buttons
First press one of these five component buttons to tell the remote control which component you want to control. You can program the VCR1, VCR2, CABLE, or AUDIO buttons to control most brands of equipment.*

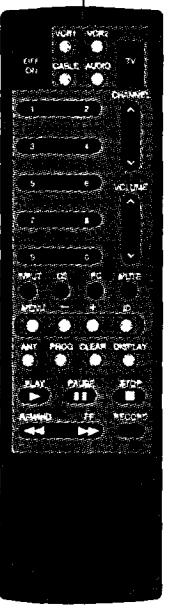
* The TV button automatically controls your TV–no additional programming is required.
- Details for programming the VCR1 and VCR2 buttons to control VCRs *are on page 23-24.*
- Details for programming the AUDIO button to control audio equipment *are on page 25-26.*
- Details for programming the CABLE button to control cable boxes *are on page 35.*

Step 2
Then press the OFF/ON button to turn on or off that component.

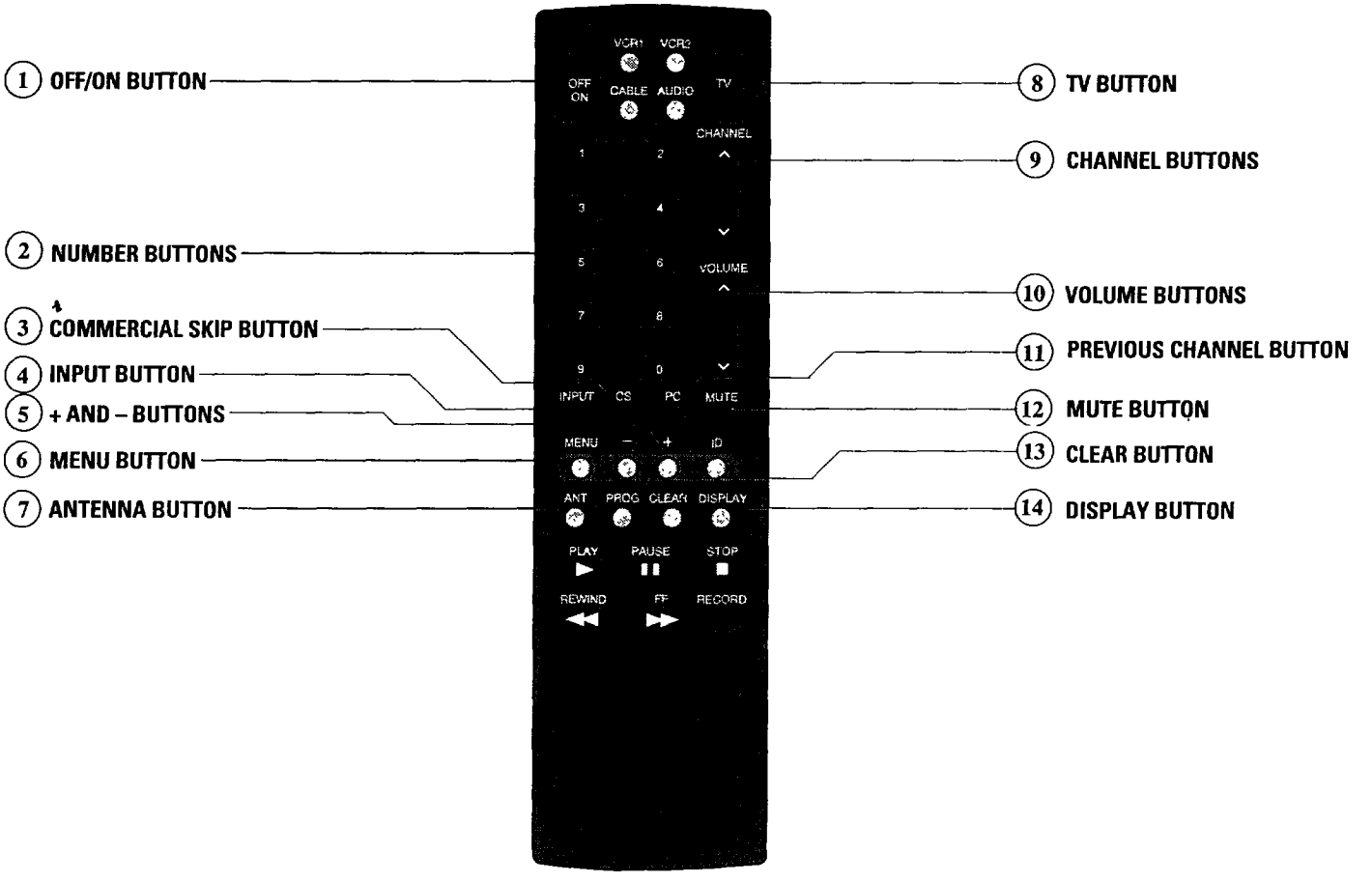
Note: The TV and some other components will automatically turn on when you press the button in Step 1.

Step 3
Function Buttons
These function buttons can now be used to control the basic functions of the component you selected in Step 1. To control a different component, first press its component button (VCR1, VCR2, CABLE, AUDIO, or TV), and then press the desired function button.

Note: Not all components have functions that can be controlled by these buttons, but you can experiment with your particular component to discover exactly which buttons will control it.



The buttons shown below can be used to operate your TV. The rest of the buttons are used to control VCRs, audio equipment, or cable boxes and are *explained on pages 23, 25, and 35.*



(1) **OFF/ON BUTTON** turns off the TV.

(2) **NUMBER BUTTONS** let you select channels directly instead of using the CHANNEL buttons. Always press two number buttons (first one, then the other) to select a channel. For example, press 0 then 6 for channel 6.

To select a 3-digit cable channel (like 127), press and hold number button 1 until "1 - -" appears on the screen. Then press the other two numbers. Your TV will tune up to cable channel number 128 when the CABLE/AIR function is set to CABLE. Check with your cable company to determine which channels are available in your area.

(3) **COMMERCIAL SKIP BUTTON**
Use this button when you want to scan other channels during a commercial break. When a program break occurs, press CS once before changing channels. The TV will count down 30 seconds on the screen and then automatically switch back to the original channel you were watching.

Press CS twice if you want the TV to count down 60 seconds. Each additional press will add another 30 seconds to the count-down time (up to five minutes) and then each additional press will add another 60 seconds to the countdown time (up to 60 minutes).

To cancel, press CLEAR. The countdown clock will disappear from the screen, and the TV will stay tuned to the channel it was on when you pressed CLEAR.

(4) **INPUT BUTTON** lets you quickly view signals from the INPUT jacks. Pressing this button switches the TV from its current channel directly to channel 90, then channel 91, then channel 92. Channel 90 lets you see the signals coming from a device that is connected to the S-VIDEO connector. Channel 91 accesses the INPUT 1 jacks and channel 92 accesses the INPUT 2 jacks.

(5) **+ AND – BUTTONS**
Use these buttons after you have pressed the MENU button to enter or adjust functions.

(6) **MENU BUTTON**
Press MENU repeatedly until the menu you want to display is selected, then press + or –. Next press MENU repeatedly to select the function you want to adjust and then press + or – to adjust the setting. *Details about using each function begin on page 8.*

(7) **ANTENNA BUTTON**
Because your TV has two different antenna inputs on the back (labeled ANT A and ANT B) you can connect more than one antenna or signal source. Press the ANTENNA button to switch from one input to the other.

The color of the channel number on the screen indicates which antenna input you are watching. The channel numbers are blue for ANT A and yellow for ANT B. If the channel numbers are blue, you are watching whatever is connected to the ANT A input on the back of the TV. If the channel numbers are yellow, you are watching whatever is connected to the ANT B input on the back of the TV. *Details are on page 21.*

(8) **TV BUTTON** turns on TV and puts remote in "TV Mode" so that the other remote buttons will control the TV. Also displays time (if clock has been set) and channel number on the TV screen.

Important Note: Most buttons on the remote control will not control the TV unless the remote is in the "TV Mode". If another component button (such as VCR1, VCR2, or AUDIO) is pressed, the remote will no longer be in the "TV Mode." To get back into the "TV Mode," simply press the button labeled TV. The remote will go back into the "TV Mode" and will control the TV again.

(9) **CHANNEL BUTTONS**
Press CHANNEL up to see the next higher channel in memory, or press CHANNEL down to see the next lower channel in memory. Channels 2 through 13 and 91 were programmed into the channel memory for you at the factory.

Your TV will automatically program active channels for your area into memory when you start the AutoProgram feature *described on page 18.* If desired, you can also add or erase individual channels *as described on page 19.*

(10) **VOLUME BUTTONS**
Press VOLUME up to increase volume, or press VOLUME down to decrease volume. The volume display will automatically appear on the screen when you press the VOLUME buttons.

(11) **PREVIOUS CHANNEL BUTTON**
Pressing the PC button causes the TV to change back to the last-tuned channel. This is useful should you want to monitor two channels.

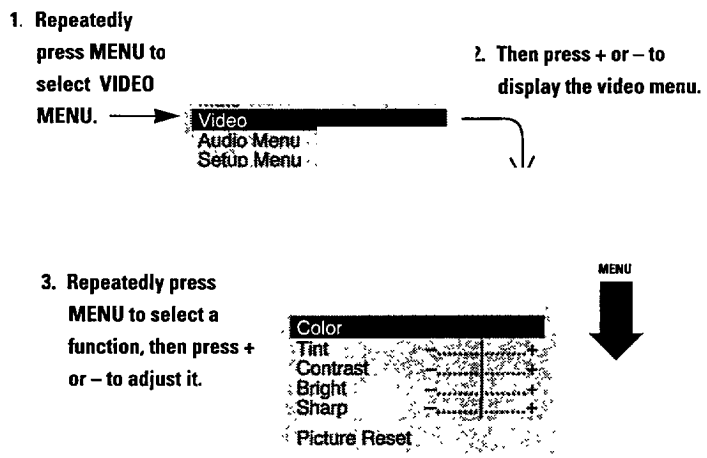
To operate, select the first channel you want to watch. Then select the other channel by pressing two number buttons. The TV will now change back and forth between the two channels each time you press the PC button.

(12) **MUTE BUTTON**
Press MUTE to quickly reduce sound to its minimum level without affecting the picture. This is very useful during telephone calls or other interruptions. When sound is muted, the word MUTE will appear on the screen. To restore sound, press MUTE again, or press VOLUME up.

(13) **CLEAR BUTTON**
Pressing CLEAR quickly clears the screen of all on-screen display messages (except mute and parental control). It is also used to cancel the Commercial Skip count-down clock and to erase channel labels.

(14) **DISPLAY BUTTON** displays time (if clock has been set) and channel number on the TV screen. Also quickly removes menus and displays from the screen.

Video Menu: Basic Functions



Pressing MENU moves down the screen (one item per press).

The video menu will automatically disappear from the screen if you do not press + or – within a few seconds.

Via remote control, your TV will "remember" which function you displayed last, even after the menu has disappeared from the screen. So, if you want to adjust the same function again, simply press the + or – button on the remote control. The last function you adjusted will reappear on the TV screen.

Custom Picture Memory for Input Channels

The channel numbers you select to see signals from components (like a VCR) that are connected to the INPUT jacks on the back of the TV are called input channels. Selecting channel 90 lets you see the signal coming from whatever component is attached to the S-VIDEO connector, channel 91 lets you see the signal from the INPUT 1 jacks, and channel 92 lets you see the signal from the INPUT 2 jacks. Your TV is equipped with a custom picture memory for these input channels. When the TV is tuned to one of these channels (90, 91 ,92), you can change the picture settings for that component's signal as desired without changing the settings of any other channel. This is very useful because you will be able to adjust for the best picture from each of your components and the TV will remember those settings automatically the next time you tune that input channel.

COLOR adjusts the amount of color in the picture. Press + to increase color or press – to decrease color.

TINT adjusts the color of flesh tones. Press + to add more red tint or press – to add more green tint.

CONTRAST adjusts the overall brightness and contrast of the picture. Press + to increase contrast or press – to decrease contrast.

BRIGHTNESS adjusts the brightness of the dark portions of the picture. Press + to increase brightness or press – to decrease brightness.

SHARPNESS adjusts picture sharpness. Press + to increase sharpness or press – to decrease sharpness.

PICTURE RESET lets you quickly change all the video functions shown above back to the factory settings. Press either + or – to reset the video functions.

Adjusting for a Color Picture that Pleases You

1 Decrease color to minimum. This will leave a black-and-white image on the screen.

2 Adjust contrast until the picture pleases you.

3 Adjust brightness until the black parts of the picture appear black. You may need to wait until the picture shows something you're sure is black. Be careful not to lose the details in darkly shaded areas.

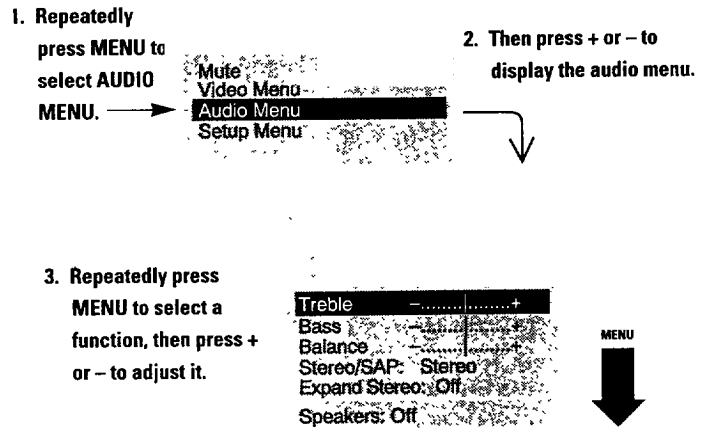
4 Increase color until you reach a pleasing level of intensity.

5 Adjust tint until flesh tones or other color objects appear natural.

6 Adjust sharpness for a pleasing level of picture sharpness. (For weak signals, the picture may be more pleasing with sharpness decreased.)

Caution: When using TV games, computers, and similar products with your TV, keep the brightness and contrast functions at low settings. If a fixed (non-moving) pattern is left on the screen for long periods of time at a high brightness or contrast setting, the image can be permanently imprinted onto the screen. These types of imprints are not covered by your warranty because they are the result of misuse.

Audio Menu: Basic Functions



Pressing MENU moves down the screen (one item per press).

The audio menu will automatically disappear from the screen if you do not press + or – within a few seconds.

Via remote control, your TV will "remember" which function you displayed last, even after the menu has disappeared from the screen. So, if you want to adjust the same function again, simply press the + or – button on the remote control. The last function you adjusted will reappear on the TV screen.

TREBLE adjusts the high frequency audio. Press + to increase treble, or press – to decrease treble.

BASS adjusts the low frequency audio. Press + to increase bass, or press – to decrease bass.

BALANCE adjusts the left/right balance of sound from the speakers. When adjusting the balance, sit in your normal viewing seat while pressing the + or – button until the sound seems to originate from a point halfway between the speakers.

STEREO/SAP lets you choose either monaural or stereo audio, or SAP audio (when it is available) by pressing the + or – button. Normally, you can leave this function set to STEREO, and your TV will automatically produce either monaural or stereo audio whichever is broadcast. *Details about stereo and SAP are on page 10.*

EXPANDED STEREO can be turned ON or OFF by pressing + or –. This feature adds greater depth and dimension to stereo broadcasts. You will probably want to leave this function turned ON so your TV will automatically expand the stereo signals whenever a stereo broadcast is received (or whenever a stereo tape is played though a stereo VCR connected to the TV's audio/video jacks labeled INPUT). *Details about expanded stereo are on page 11.*

SPEAKERS ON/OFF lets you turn off the TV's speakers by pressing + or –. You will probably want to leave the TV's speakers turned on unless you connect an amplifier (with its own set of speakers) to the appropriate jacks on the back of the TV *as described on page 43.* Turning this function off, turns off not only the TV's internal speakers but also any external or surround speakers connected to the TV's speaker terminals. Sound will then only come through the speakers connected to the amplifier, since the TV's speakers are turned off.

Receiving Stereo Broadcasts

Your TV is fully capable of reproducing stereo sound from TV stations transmitting stereo sound in your area. All you have to do to enjoy stereo sound is to make sure the TV's STEREO/SAP function is set to STEREO so the TV can receive stereo broadcasts.

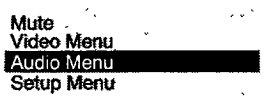
Normally this function can be left in the STEREO mode. Your TV will then automatically reproduce either stereo or monaural sound, whichever is broadcast.

In some fringe viewing areas, however, the stereo signal may not be strong enough for quality reception. The signal may drift, or the reproduction may become noisy. Should that occur, change the STEREO/SAP function to the MONO mode to receive clearer, cleaner sound.

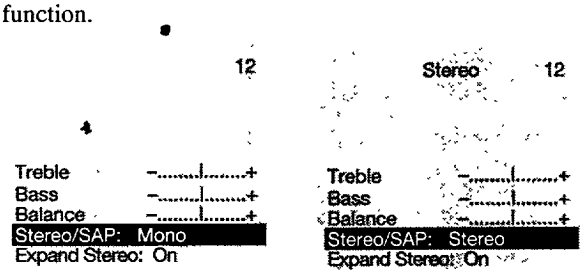
Helpful Hint: Some television stations transmit a "pilot" signal that makes your TV think it's receiving stereo, even though the broadcast signal is monaural. The "pilot" signal will make the stereo indicator appear on the screen next to the channel number, however, you will not be able to hear stereo sound. If the stereo indicator appears but you can not hear stereo sound, check with the television station to inquire whether the program being broadcast is in stereo or monaural audio.

Resetting the Audio Function to Receive Stereo
with or without remote

1 Press the MENU button repeatedly to select the AUDIO MENU and then press + to display the audio menu.

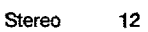


2 Press the MENU button repeatedly to select the STEREO/SAP function.



3 Press either + or – repeatedly until the word STEREO appears at the right.

Note: Each time you press the + or – button, the on-screen display will change from STEREO to MONO. (The word SAP may also appear if SAP audio is present). *SAP is explained at the right.*



Note: When the STEREO/SAP function is set to the STEREO mode, your TV will let you know when a channel is being broadcast and received in stereo by displaying the word STEREO next to the channel number on the screen. (Press the TV or DISPLAY button to see the channel number).

Receiving SAP Broadcasts

Some TV stations that broadcast stereo also broadcast another audio program called SAP. SAP stands for Second Audio Program and is sometimes used to broadcast a second audio track for a bilingual movie.

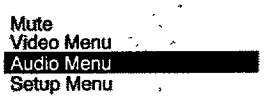
Because SAP is only available with stereo broadcasts, the TV's STEREO/SAP function must be in the STEREO mode to see if SAP audio is available. After you have set the STEREO/SAP function to the STEREO mode, your TV will display the word STEREO next to the channel number when stereo audio is being received. If SAP audio is also available, your TV will display an asterisk (*) after the word STEREO (STEREO*).

You can then listen to the SAP audio by changing the STEREO/SAP function to its SAP setting as explained below. Although SAP audio is transmitted with the stereo signal, it is not broadcast in stereo. That means the SAP audio will be monaural sound.

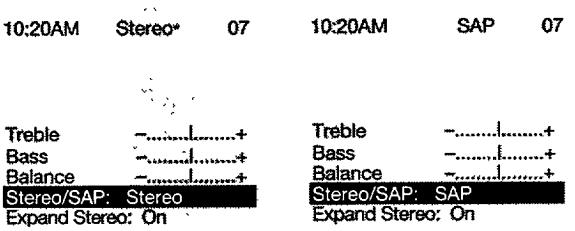
Your TV will reproduce SAP audio until you change channels.

Turning on SAP Channel
with or without remote control

1 Press the MENU button repeatedly to select the AUDIO MENU and then press + to display the audio menu.



2 Repeatedly press the MENU button until STEREO/SAP is selected.



3 Repeatedly press either + or -- until the word SAP appears at the right.

Notes: Each time you press the + or – button, the function will change from STEREO to SAP to MONO (if SAP is available). If SAP is not available, the function will change from STEREO to MONO.

The word SAP will appear next to the channel number when you are listening to SAP audio. (Press the TV or DISPLAY button to see this display).

Expanded Stereo

Your TV includes an Expanded Stereo feature which adds greater depth and dimension to stereo broadcasts. Your TV electronically increases the audio separation perception of the speakers so you perceive an "expanded" more spacious stereo sound effect.

Although you can easily turn the expanded stereo feature on and off as desired, you may prefer to leave it turned on. That way your TV will automatically process and expand the stereo signals whenever a stereo broadcast is received (or whenever a stereo tape is played through a stereo VCR connected to the TV's audio/video jacks labeled INPUT).

Because this feature expands stereo sound, it processes only stereo signals. If a TV program is broadcast in mono instead of stereo, your TV will automatically reproduce monaural audio. You will not be able to hear Expanded Stereo because expansion has no effect on monaural audio.

Stereo expansion enhances the ambience of music and program material. Dramatic effects of spatial enhancement can be experienced with music. Talk shows with background crowd noise also benefit from expansion by engulfing the listener in a wider sound field than would be experienced without expanded stereo. The effect will vary with program material.

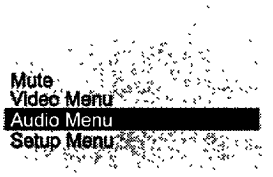
The perception of greater stereo separation is created by cancelling the cross-coupled sound from the right speaker that arrives at the left ear (and the left speaker that arrives at the right ear). Like stereo headphones, stereo expansion isolates the left and right signals that arrive at the ears. As a result, the speakers seem to be farther away from the TV.

Notes: The Expanded Stereo feature will have no effect unless the program is broadcast in stereo.

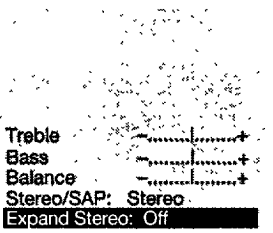
When the Expanded Stereo feature is turned on, some sound will be heard from each speaker regardless of the BALANCE control setting.

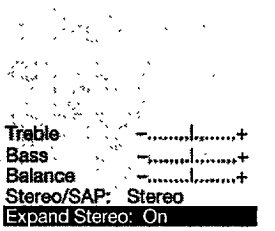
Resetting the Audio Function to Hear Expanded Stereo *with or without remote*

1 Press the MENU button repeatedly to select the AUDIO MENU and then press + to display the audio menu.



2 Press the MENU button repeatedly to select the EXPAND STEREO display.

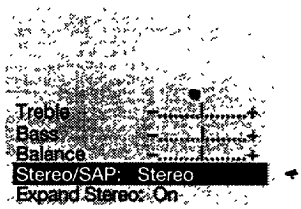




3 Press either + or – to turn on Expanded Stereo. Each time you press the + or – button, the on-screen display will change from ON to OFF, etc.

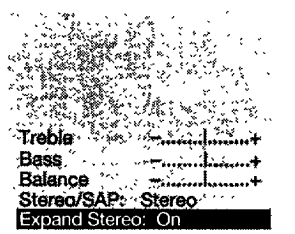
To Hear Expanded Stereo

1 The STEREO/SAP function must be set to STEREO. You will not hear expanded stereo if this function is set to MONO or SAP. *Details are on page 10.*



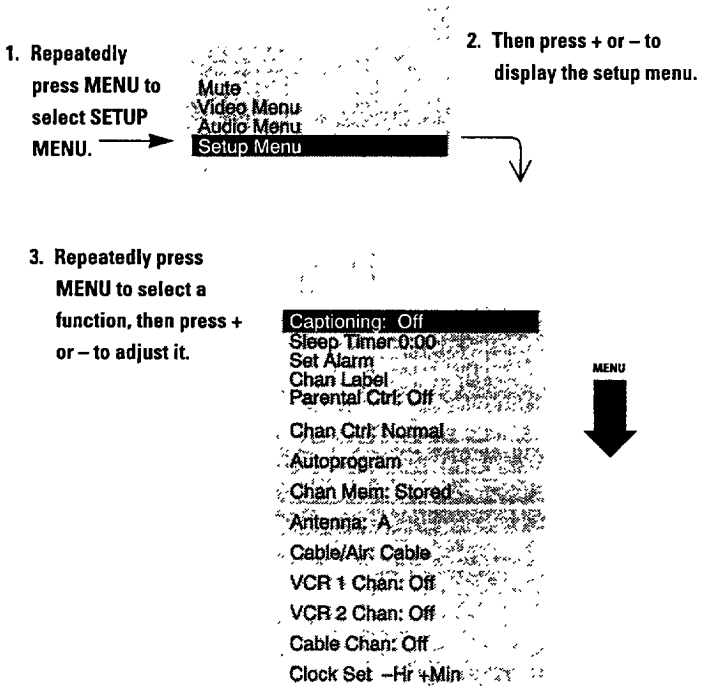
2 The EXPAND STEREO function must be set to ON. You will not hear expanded stereo if this function is set to OFF.

3 A stereo signal must be present. You will not hear expanded stereo on TV programs if the TV station is broadcasting monaural audio. You can, however, hear expanded stereo if you play a stereo tape on a stereo VCR that is connected to the TV's audio/video jacks labeled INPUT.



Normally, you can leave the STEREO/SAP function set to STEREO and the EXPAND STEREO function set to ON. Your TV will then automatically produce either expanded stereo or monaural sound, whichever is broadcast.

Setup Menu: Basic Functions



Pressing MENU moves down the screen (one item per press). The setup menu will automatically disappear from the screen if you do not press + or – within a few seconds.

Via remote control, your TV will "remember" which function you displayed last, even after the menu has disappeared from the screen. So, if you want to adjust the same function again, simply press the + or – button on the remote control. The last function you adjusted will reappear on the TV screen.

CLOSED CAPTIONING lets you display the audio portion of a program as text on the TV screen. *Details are on page 13.*

SLEEP TIMER lets you program your TV to turn itself off after a certain period of time. This is useful whenever you want to watch TV for an hour or so before going to sleep. Press the + or – button to select the length of time you want the TV to stay on. *Details are on page 14.*

The **ALARM** function lets you program your TV to turn on and/or off at the time you choose. *Details are on page 15.*

CHANNEL LABELING lets you program names (or labels) for the channel numbers. The names you select will then appear on the screen whenever the channel number is displayed. *Details are on page 16.*

The **PARENTAL CONTROL** feature lets you lock out any channels that you don't want your children to watch. Pressing + or – switches this function from OFF to ON. When this function is set to ON, channels that have been locked out with the CHAN CTRL function cannot be viewed. When this function is set to OFF, all channels can be viewed. *Details are on page 17.*

The **CHANNEL CONTROL** function works hand-in-hand with the PARENTAL CONTROL function. It lets you select the channels you want to lock out. First select the channel number you want to lock out and then press + or – to change this function from NORMAL to LOCKED. When the PARENTAL CONTROL function is set to ON, the channels you locked with this function cannot be viewed. *Details are on page 17.*

AUTOPROGRAM commands the TV to automatically cycle through all channels and place only active channels for your area in its channel memory. Pressing the CHANNEL up or down buttons will then only stop on active channels *Details are on page 18.*

CHANNEL MEMORY is the list of channels the TV will stop on when you press the CHANNEL up or down button. This display lets you add or erase channels as desired. *Details are on page 19.*

ANTENNA A/B – Because your TV has two separate antenna inputs on the back labeled ANT A and ANT B, you can connect two different signal sources, if desired. By pressing + to change this display, you can switch back and forth between the two signal sources. Each time you press +, the antenna input will change. *Details are on page 21.*

The **CABLE/AIR** function tells your TV whether you have a cable-TV system or a home antenna connected to the TV. Your TV is so automatic that you will probably never need to change this function. When your TV autoprograms, it automatically adjusts the CABLE/AIR setting for you. If you should ever need to override the automatic setting, press + or – to change it.

The **VCR 1 CHANNEL** function lets you program to which channel the TV will automatically tune when you press the VCR1 button on the remote. *Details are on page 20.*

The **VCR 2 CHANNEL** function lets you program to which channel the TV will automatically tune when you press the VCR2 button on the remote. *Details are on page 20.*

The **CABLE CHANNEL** function lets you program to which channel the TV will automatically tune when you press the CABLE button on the remote. *Details are on page 22.*

CLOCK SET allows you to set the clock so you'll be able to see the on-screen time display whenever you change channels or press the TV or DISPLAY button on the remote control. To set the clock, first press and hold the – button until the correct hour appears. Then press and hold the + button until the correct minute appears.

Using Closed Captioning

The CAPTIONING feature lets you display the audio portion of a program as text on the TV screen. This is useful to the hearing impaired or anyone who wants to watch a program without the sound.

Four types of closed captioning are available: CAPTIONS 1, CAPTIONS 2, TEXT 1 AND TEXT 2. Select CAPTIONS 1 for complete text of the primary language in your area; select CAPTIONS 2 for secondary language translation or simplified English, depending on which type is available in your area.

Both TEXT modes, TEXT 1 AND TEXT 2, display on-screen boxes containing general information not related to the audio portion of the program.

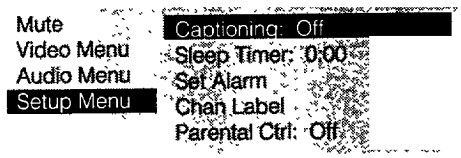
Notes: Closed Captioning (CC) is not available on all channels at all times. When Closed Captioning is available for a specific program, the word "Captioning" appears on the screen when you change channels or press the TV or DISPLAY buttons on the remote.

The Text modes are also not available at all times on all channels.

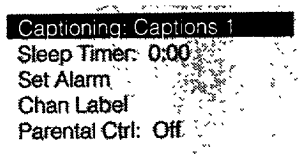
Setting Closed Captioning

with or without remote

1 Repeatedly press the MENU button to select SETUP MENU and then press + to display the setup functions. CAPTIONING is highlighted since it is the first function in the setup menu.

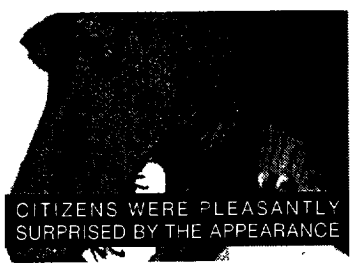


2 Press the + or - button to select the captioning mode: Off, Captions 1, Captions 2, Text 1 or Text 2.



When finished, the display automatically disappears from t screen in a few seconds. Press the CLEAR button to make the display disappear more quickly.

3 The screen begins to display the TV program's audio as text written on the screen.



Turning Off Closed Captioning

To turn the captions off , enter the CAPTIONING function and press the + or – button until the screen shows "Off."

Setting the Sleep Timer

With the Sleep Timer, you can program your TV to turn itself off after a period of up to four hours. This is useful when you want to watch TV for an hour or so before going to sleep.

Setting Sleep Timer
with or without remote

1 Repeatedly press the MENU button to select SETUP MENU and then press + to display the setup functions.

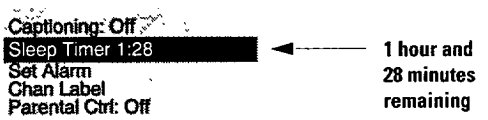
2 The SLEEP TIMER should be selected. If not, repeatedly press the MENU button to select it.

3 Press the + or – button to select the length of time (up to four hours) you want the TV to stay on. Each press of the button increases the time 30 minutes (up to four hours). Then the time display will start over with 0:00.

4 The display will automatically disappear from the screen in a few seconds. It will disappear more quickly if the DISPLAY or CLEAR button is pressed.

5 The Sleep Timer will begin to count down to zero. The word SLEEP will appear on the screen whenever you change channels or press the TV button to let you know the Sleep Timer is activated.

The amount of time remaining before the TV shuts itself off will appear in the SLEEP TIMER menu whenever you press the MENU button to select the SETUP MENU and then press +.



6 When the Sleep Timer counts down to 0:00, the SLEEP TIMER display will appear on the screen for a few seconds. Then the TV will turn itself off. If you want the TV to stay on when this display appears, press the TV button on the universal remote. The Sleep Timer will be cancelled. To add more time to the Sleep Timer when this display appears, press the + button on either remote.

Clearing Sleep Timer

To cancel the sleep timer, enter the Sleep Timer function and then press the + or – button until the screen shows 0:00.

Setting the Alarm

By setting the alarm, you can program the TV to turn on and/or off by itself. After the ON TIME is set and the ALARM ON/OFF function is set to ON, the TV will automatically turn on each day at the time you selected and remain on until the OFF TIME is reached. If no OFF TIME has been programmed, the TV will remain on until you turn it off.

The ALARM ON/OFF function lets you easily deactivate or reactivate the alarm without having to reset the ON TIME and OFF TIME.

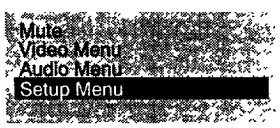
When the alarm time is reached, the set will turn on at whatever volume you left it when you last turned it off. So if you want the TV to come on loudly at the ON TIME, be sure the TV is playing loudly when you turn off the TV for the last time.

When the ALARM ON/OFF function displays SET CLOCK, you will need to set the clock time before you will be able to turn on the alarm function. *Details for setting the clock are on page 3.*

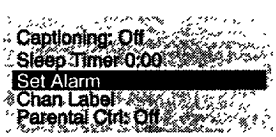
Note: During extended power failures the alarm function will be disabled. The alarm ON TIME and OFF TIME will stay set but the ALARM ON/OFF function will reset to OFF and will display SET CLOCK to inform you that the clock must be reset to the correct time. Once the clock has been reset, you can reactivate the ALARM function by changing the ALARM function to ON.

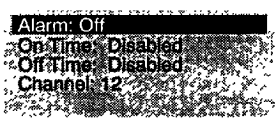
Setting the Alarm

1 Repeatedly press the MENU button to select SETUP MENU and then press + to display the setup functions.

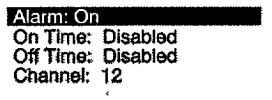


2 Repeatedly press the MENU button to select the SET ALARM function. Then press + or – to display the alarm settings.



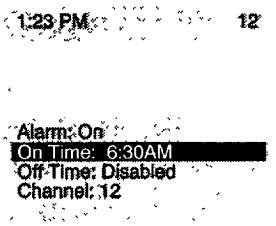


3 When the first ALARM function is selected, pressing + or – will switch the setting between ON and OFF. Set this function to ON if you want to activate the alarm. When this function is set to OFF, the alarm is deactivated and the TV will not turn on or off by itself.



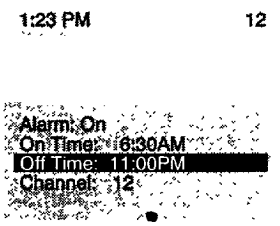
Note: If SET CLOCK is displayed next to ALARM, you will need to set the clock time before you will be able to turn on the alarm function. Details for setting the clock are on page 3.

4 Press MENU to select the next function called ON TIME. If you want the TV to turn on by itself, enter the desired time by pressing – to select the hour (including AM and PM) and then pressing + to select the minutes. If you only want the TV to turn off by itself and not turn on, you can disable the ON TIME by pressing – until the word DISABLED appears.

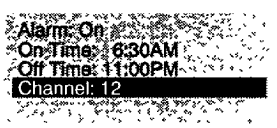


Note: Remember to check the AM/PM setting. Midnight is 12:00 AM and noon is 12:00 PM.

5 Press MENU to select the next function called OFF TIME. If you want the TV to turn off by itself, enter the desired time by pressing – to select the hour (including AM and PM) and then pressing + to select the minutes. If you only want the TV to turn on by itself and not turn off, you can disable the OFF TIME by pressing – until the word DISABLED appears.



6 Press MENU to select the next function called CHANNEL. This function lets you program which channel the TV will tune when it turns on at the ON TIME. Press CHANNEL up or down to select the channel, and then press + or – to enter it into the CHANNEL function.



Note: The TV will change to the channel that you select. This will help you to confirm that it is indeed the channel you want the TV to turn on to.

Labeling Channels

The labeling feature lets you program names (or labels) for the channel numbers. The name you programmed will then appear on the screen below the channel number whenever the channel number is displayed. Each name can contain up to four characters, and you'll be able to assign up to 64 names.

Listed below are the letters and characters from which you'll be able to choose when programming the channel labels:

A B C D E F G H I J K L M

N O P Q R S T U V W X Y Z

(blank space) ! " # $ % & ' ( ) á + , - /

0 1 2 3 4 5 6 7 8 9

: ; < = > ? @

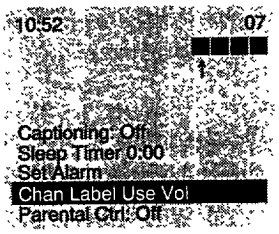
Labeling Channels
with or without remote

1 Repeatedly press the MENU button to select SETUP MENU and then press + to display the setup functions.

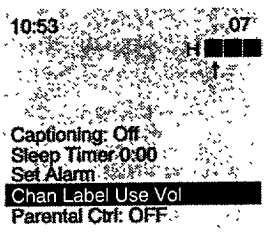
2 Repeatedly press the MENU button to select CHAN LABEL.

3 Press + to enter the CHAN LABEL function. Four blank letter frames will appear under the channel number.

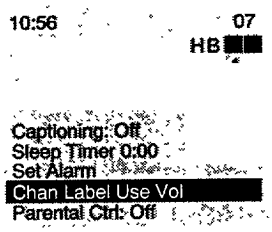
4 Select the channel number you want to label by pres: CHANNEL up or dow n button (or by pressing two number buttons).



5 Press and hold the VOLUME up or down button on the remote control until the le ter or character you want appears on the screen. Pressing VOLUME up sequences through the characte in alphabetical order. Pressing VOLUME down sequences the letters in reverse order.



6 Then press + to move to the next letter frame. Press moves you back to the previous letter frame.



7 Repeat steps 5 and 6 until the name is complete. You can n label another channel, if desired, by selecting the channel number and repeating steps 5 and 6.

8 When finished, the display will automatically disappear fron the screen in a few seconds. Your labels will remain in memory until you erase them.

Erasing Channel Labels

To erase a channel label, first follow steps 1-4 and then press CLEAR on the remote control.

Parental Control

The PARENTAL CTRL and CHAN CTRL functions let you lock out any channels you choose so they cannot be viewed by your children.

Channels that have been locked out can be viewed only when the PARENTAL CTRL function is set to OFF. This can only be done with the remote control–it can not be changed with the buttons on the front of the TV. Therefore, after you turn on PARENTAL CTRL, you simply hide the remote control so that your children can not watch the locked-out channels.

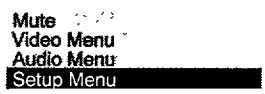
The locked-out channels will remain unviewable even if the TV is unplugged or the channels are autoprogrammed again. The only way to view locked-out channels is to use the remote control to set the PARENTAL CTRL function to OFF.

Note: Channels above 99 cannot be locked.

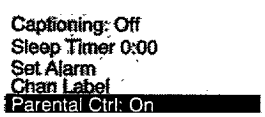
Activating Parental Control
with remote only

The PARENTAL CTRL and the CHAN CTRL functions work hand-in-hand. The instructions below will first tell you how to turn parental control on or off with the PARENTAL CTRL function and then how to lock out desired channels with the CHAN CTRL function.

1 Repeatedly press the MENU button to select SETUP MENU and then press + to display the setup functions.



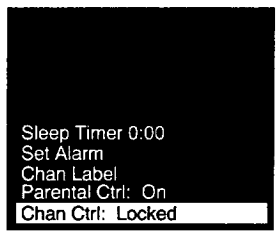
2 Repeatedly press MENU to select the PARENTAL CTRL function. Pressing + or – changes this function between ON and OFF.



- When this function is set to ON, PARENTAL CTRL is activated and any channels you locked out with the CHAN CTRL function will not be viewable.
- When this function is set to OFF, PARENTAL CTRL is deactivated and all channels are viewable.

3 To lock out channels, press the MENU button to select the CHAN CTRL function.

Select a channel you want to lock out by pressing CHANNEL up or down. Then press + or –. The CHAN CTRL setting will change from NORMAL to LOCKED when that channel is locked-out.



Repeat step 3 for each channel you want to lock out.

If the PARENTAL CTRL function is set to ON while you are locking out channels, each channel will go blank as you lock it out.

When the PARENTAL CTRL function is set to ON and a channel which has been locked out is tuned, the TV will display the words PARENTAL CONTROL to let your kids know you have locked it out.

Note: You may want to lock out the same channels in both ANTENNA A and ANTENNA B modes. This prevents someone from moving the cable to the ANT B input to watch channels locked out in the ANTENNA A mode.

Programming Channel Memory

The quickest way to program the Channel Memory is to use the AUTOPROGRAM function. Your TV automatically cycles through and places active channels into Channel Memory.

Follow the instructions below to autoprogram channels, then add or erase individual channels as desired.

AutoProgramming Channels into Channel Memory *with or without remote*

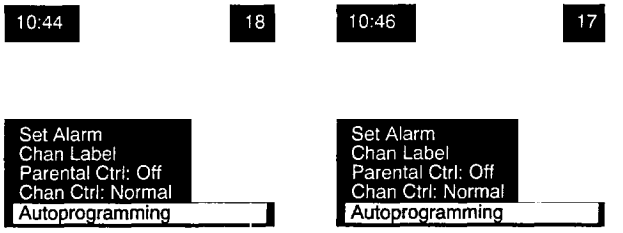
1 Connect home antenna(s) or cable-TV to your set.

2 Repeatedly press the MENU button to select SETUP MENU and press + to display the setup functions.

3 Repeatedly press the MENU button until the AUTOPROGRAM menu is selected.

4 Press either + or – to begin programming. The TV will cycle thru available channels in your area and place active channels into memory.

The TV first programs all channels for ANT A input and then all channels for ANT B input (even with one antenna input connected).



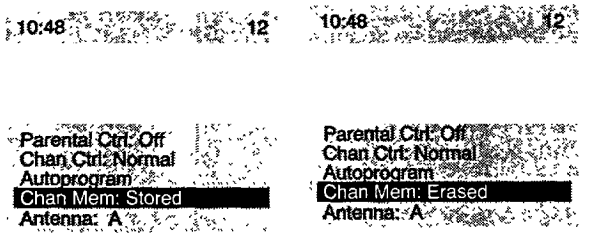
5 When the TV finishes cycling, you can check the channels are in memory by pressing the CHANNEL up or down button. Your set will stop on each of the channels in memory.

Your TV will remember which channels are in memory until you erase them or until you autoprogram channels again. Extended power failures have no effect on the channel memory.

Erasing/Adding Channels in Channel Memory
with or without remote

1 Repeatedly press the MENU button to select SETUP MENU and then press + to display the setup functions.

2 Repeatedly press the MENU button until CHAN MEM is selected.



3 To erase a channel, first press the CHANNEL up or down button until the channel number you want to erase appears on the screen. Then press –.

To add a channel, first enter two number buttons for the channel you want to add. For example, press "0" then "6" for Channel 6. (If the remote is not handy, you can press the CHANNEL up or down button on the TV to select the channel you want to add). Then press +.

4 Repeat step 3 for each channel you want to erase or add.

Note: The menu will automatically disappear from the screen a few seconds after you have finished erasing or adding channels. You can make it disappear more quickly by pressing the CLEAR button on the remote control.

Adding Video Input Channels to Channel Memory
with or without remote

As an added convenience, you can also add video input channels (90, 91, and 92) to memory. If you have a video device such as a VCR, camcorder, laser disc player, etc.) connected to the S-VIDEO or INPUT jacks on the back of the TV, you can view its signal either by directly selecting Channel 90 (for S-VIDEO connector), Channel 91 (for INPUT 1), or Channel 92 (for INPUT 2) with the number buttons or by adding those channels to the Channel Memory.

Adding Channels 90, 91, and 92 to the Channel Memory allows access to the video inputs at the TV by pressing the CHANNEL up or down buttons as well as by using the remote control.

VCR Channel Setup

The VCR 1 CHAN function lets you program to which channel the TV will automatically tune when you press the VCR1 button on the remote. This is handy if you connect a VCR to your TV. You will no longer have to remember to which input jacks the VCR is connected because the TV will remember for you.

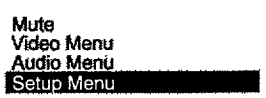
For example, if you connect a VCR's AUDIO/VIDEO OUT jacks to the TV's INPUT 1 jacks (as shown on page 37), you will no longer have to remember to select channel 91 on the TV to see what the VCR is playing. By entering channel 91 next to the VCR 1 CHAN function, the TV will automatically tune to channel 91 each time you press the VCR1 button on the remote.

This function is especially convenient if you have a compatible VCR that can be operated by the VCR1 button on the remote. Pressing VCR1 will then not only turn on the VCR but also automatically tune the TV to the proper channel for viewing the picture from the VCR. You can program most brands of remote-controllable VCRs to respond to the VCR1 button *as described on page 24.*

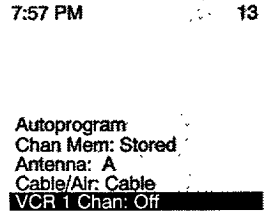
The VCR 2 CHAN function works the same way. It lets you program to which channel the TV will automatically tune when you press the VCR2 button on the remote. You can program most brands of remote-controllable VCRs to respond to the VCR2 button *as described on page 24.* Pressing the VCR2 button will then not only turn on the VCR but also automatically tune the TV to the proper channel for viewing the picture from the VCR.

Setting Up VCR Channels *with or without remote*

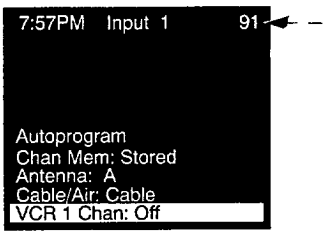
1 Repeatedly press the MENU button to select SETUP MENU and then press + to display the setup functions.



2 Repeatedly press MENU to select the VCR 1 CHAN function.

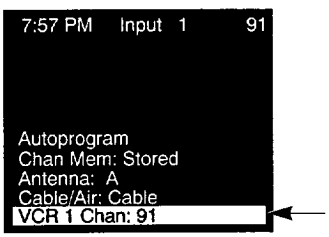


3 Enter the channel number you want to program by pressing two number buttons on the remote control. (The channel number you enter is the channel to which the TV will tune automatically when you later press the VCR1 button on the remote.) See the notes below if you are unsure about which channel number to enter.

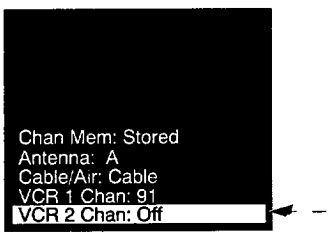


4 Press the + button to program the channel number you selected into the TV's memory.

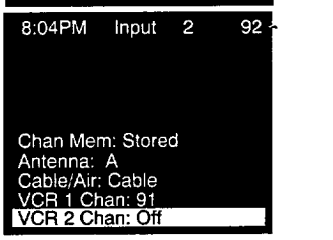
Note: Pressing the – button here will turn off this feature and display VCR 1 CHAN: OFF again.



5 If you have another VCR connected to the TV, press MENU to select the VCR 2 CHAN function.

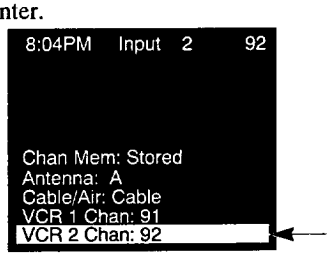


6 Enter the channel number you want to program by pressing two number buttons on the remote control. (This is the channel number to which the TV will tune automatically when you later press the VCR2 button on the remote). See the notes below if you are unsure about which channel number to enter.



7 Press the + button to program the channel number you selected into the VCR 2 CHAN function memory.

Note: Pressing the – button here will turn off this feature and display VCR 2 CHAN: OFF again.



Notes about Entering Channel Number:

- Enter channel 91 if your VCR is connected to the TV's audio and video INPUT 1 jacks.
- Enter channel 92 if your VCR is connected to the TV's audio and video INPUT 2 jacks.
- Enter channel 90 if you have a Super-VHS VCR that is connected to the TV's S-VIDEO connector and INPUT 1 audio jacks (labeled L and R/MONO).
- Enter channel 03 (or 04) if you did not use any audio/video cables and connected the VCR to the TV's round antenna connector labeled CABLE/ANTENNA. Enter the same channel number (03 or 04) as the position of the VCR's CH3/CH4 switch. This is the channel to which you must tune your TV for viewing signals from your VCR.

Changing Antenna Input

Your TV has two separate antenna inputs on the back (labeled ANT A and ANT B) that allow you to connect two different signal sources if desired. For example, you can connect a cable-TV system to one input and a home antenna to the other input.

By pressing the ANTENNA button on the remote control, you can switch back and forth between the two signal sources.

Listed below are some other common uses of the two antenna inputs:

1 Connecting a cable-TV system (or antenna) to one input and a VCR to the other.

2 Connecting a cable-TV system (or antenna) to one input and a video game to the other.

3 Connecting a double-trunk cable system to both inputs.

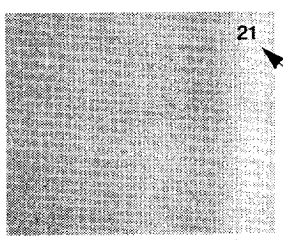
4 Connecting a cable-TV converter/decoder box that scrambles only premium channels and cannot be controlled by remote control. *Connection details are on pages 33-34.*

The Channel Memory is the list of channel numbers your TV will stop on when you press the CHANNEL up or down buttons. Your TV provides two separate channel memories (one for ANT A input and one for ANT B input). This allows you to add or delete channels into each channel memory as desired.

When you use the AUTOPROGRAM function, the TV automatically checks both inputs and sets up a separate channel memory for each.

Changing Antenna Input *with remote*

1 Press the ANTENNA button on the remote control to switch from ANT A input to ANT B input. The color of the channel numbers will change from blue to yellow to let you know you are now watching whatever signal is connected to the ANT B connector on the back of the TV.

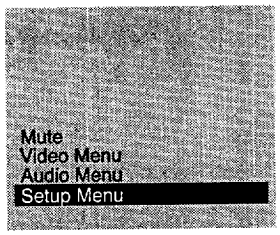


blue for ANT A
yellow for ANT B

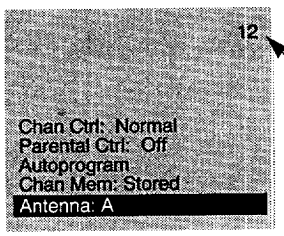
2 Press the ANTENNA button again to switch back to ANT A. The color of the channel numbers will change back to blue to let you know you are now watching whatever signal source is connected to the ANT A connector.

Changing Antenna Input *without remote*

1 Repeatedly press the MENU button to select SETUP MENU and then press + to display the setup functions.

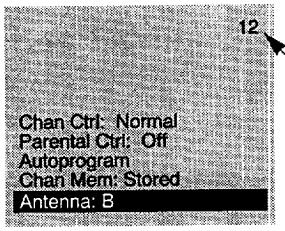


2 Repeatedly press the MENU button to select ANTENNA: A/B.



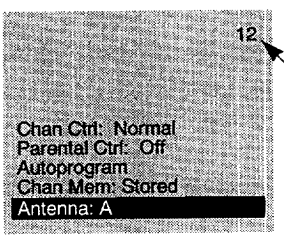
blue for ANT A

3 Press the + or – button to change the setting. The screen display will change from A to B to let you know you are now watching whatever signal is connected to the ANT B connector on the back of the TV.



yellow for ANT B

4 Press the + or – button again to switch back to ANT A. The screen display will change to ANTENNA: A to let you know you are now watching whatever signal source is connected to the ANT A connector on the back of the TV.



blue for ANT A

Cable Box Channel Setup

The CABLE CHAN function lets you program to which channel the TV will automatically tune when you press the CABLE button on the remote. This is handy if you have to connect a cable box to your TV. You will no longer have to remember the output channel of the cable box because the TV will remember for you.

For example, if you connect a cable box to the TV's CABLE/ANTENNA connector (as shown on page 33), you will no longer have to remember to select channel 2, 3, or 4 on the TV to see what's coming from the cable box. By entering the cable box's output channel (usually 02, 03, or 04) next to the CABLE CHAN function, the TV will automatically tune to that channel each time you press the CABLE button on the remote.

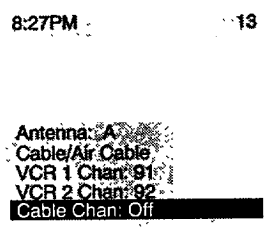
This function is especially convenient if you have a remote-controllable cable box that can be operated by the CABLE button on the remote *as described on page 35.* Pressing the CABLE button will then not only switch the remote to cable mode but will also automatically tune the TV to the proper channel for viewing the picture from the cable box.

Setting Up Cable Box Channel

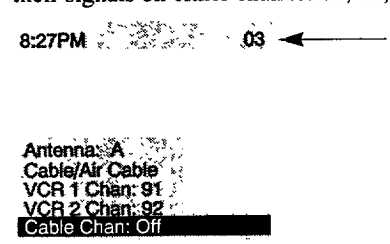
with or without remote

1 Repeatedly press the MENU button to select SETUP MENU and then press + to display the setup functions.

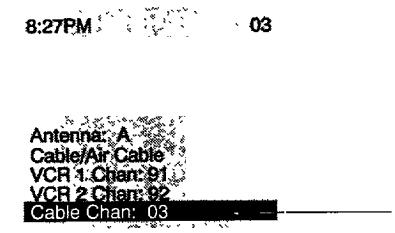
2 Repeatedly press MENU to select the CABLE CHAN function.



3 Enter the channel number you want to program by pressing two digit buttons on the remote control. (The channel number you enter is the channel to which the TV will tune automatically when you later press the CABLE button on the remote). The TV will change to the channel you select. This will help you to confirm that it is indeed the channel you want the TV to automatically tune. Most cable boxes output their signals on either channel 02, 03, or 04.



4 Press the + button to program the channel number you selected into the CABLE CHAN function memory.



Note: Pressing the – button here will turn off this feature and display CABLE CHAN: OFF again.

Controlling ProScan VCRs with Remote

The advanced ProScan universal remote controls your TV and up to two compatible ProScan brand VCRs. The VCR2 button can also control a compatible ProScan laserdisc player.

To control a compatible ProScan VCR, first press the VCR1 or VCR2 button to put the remote in the "VCR mode". The buttons shown below will then control the VCR.

Selected models of VCRs have a switch that lets you determine which VCR will be controlled by the VCR1 button, and which VCR by the VCR2 button. Other models have an on-screen menu that lets you determine if it will be controlled by VCR1 or VCR2. Some older VCRs have a NORM/UNIFIED switch that can also respond to either the VCR1 or VCR2 button on the remote. Place this switch in the UNIFIED position for the VCR to respond to the VCR1 button or in the NORM position for the VCR2 button. In the NORM position, you must program the VCR2 button to respond to code number 05.

The buttons shown below do not operate all functions on all VCRs. You may only be able to control your VCR's basic functions.

Remote Buttons That Control ProScan VCRs

OFF/ON BUTTON Press to turn off VCR.

NUMBER BUTTONS Press two numbers to select VCR channel. Press a "0" before a single-digit channel number.

PROGRAM BUTTON is used when setting the clock and programming the timer.

ANTENNA BUTTON Press to change TV/VCR switch on VCR to other position.

PLAY BUTTON Press to start tape playing.

REWIND BUTTON Press while VCR is stopped to rewind tape. Press while VCR is playing to search backward.

VCR1 AND VCR2 BUTTONS Press to turn on VCR and put remote in "VCR Mode" so other buttons will control the VCR. Press the TV button to put remote back into "TV Mode".

CHANNEL UP OR DOWN BUTTONS Press to select next higher or lower channel in VCR's channel memory.

ID BUTTON is used when programming remote to control other brands of VCRs.

CLEAR BUTTON is used when setting the VCR's clock and programming its timer.

DISPLAY BUTTON Press to display VCR's on-screen messages.

PAUSE BUTTON Press to pause PLAY or RECORD mode. Press again to release pause.

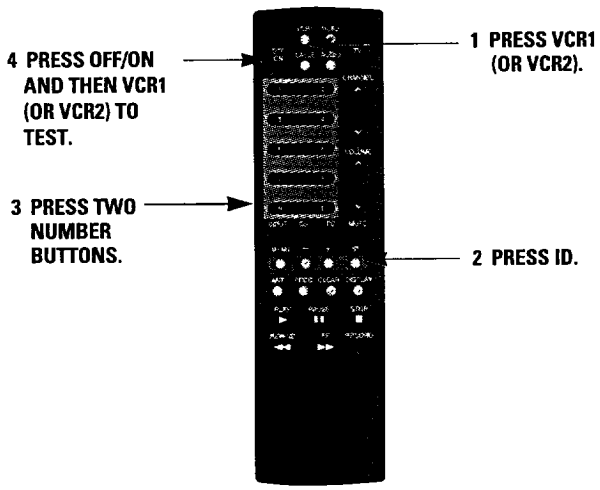
STOP BUTTON Press to stop whatever VCR is doing: playing, recording, rewinding, or fast forwarding.

RECORD BUTTON Press to record. It is not necessary to press PLAY and RECORD.

FAST FORWARD BUTTON Press while VCR is stopped to fast forward tape. Press while VCR is playing to search forward.

Controlling Other Brands of VCRs with Remote

To program the remote to control another brand of VCR, just press VCR1 (or VCR2), then ID, then the two-digit code number for your brand of VCR. Depending on the age, brand, model, and type of VCR, some models may not be able to respond to the remote control.



Programming Remote To Control Other Brands of VCRs

Refer to the chart at the right to find the code number that corresponds to the brand name of your VCR. Keep this number in mind. If more than one number is listed, you may need to try each one separately until you find the one that works.

1. Press VCR1 or VCR2 button on remote (depending on which button you want to program for that VCR). You can program each button to control a different VCR.
2. Press ID button on remote.
3. Press two number buttons (first one, then the other) to enter the code number for your brand of VCR. You must press the two number buttons within three seconds of pressing ID.
4. Point the remote at the VCR and press the OFF/ON button to test the code number. If nothing happens, try pressing VCR1 or VCR2 (whichever button you are programming). If the right number was entered, the VCR should turn on. If the VCR does not react to the remote, repeat steps 1 thru 4 with another code number.

Note: Some older VCRs do not have an OFF/ON switch on their remote controls and cannot be turned on and off remotely. If you have this type of VCR, you can test the code number by pressing the CHANNEL button instead of the OFF/ON button. Make sure the VCR is already turned on when you test the code number.

Operating Notes: After the remote is programmed, it will turn on the VCR whenever you press VCR1 (or VCR2) and then OFF/ON. Some VCRs turn on automatically when you press VCR1 or VCR2. You'll be able to control the VCR whenever the remote is in the "VCR mode". To put the remote in the "VCR mode", press the VCR1 or VCR2 button (depending on which button you programmed). The other VCR buttons (such as PLAY, PAUSE, STOP, REWIND, FF, and RECORD) will control the VCR when the remote is in the "VCR mode". To turn off the VCR, press VCR1 (or VCR2), then OFF/ON. To change channels on the VCR, press VCR1 (or VCR2), then CHANNEL up or down. This remote will control the basic functions of compatible VCRs. It will not be able to control the advanced functions of all brands of VCRs. You may have to reprogram your remote if you change its batteries.

Notes About Controlling Two VCRs

This remote can control two VCRs independently as long as each VCR operates on a different remote transmitting code.

VCR Brand	Code(s)
AIWA	15
Akai	03, 22, 23
Audio Dynamics	14, 16
Brooksonic	10
Canon	08
Capehart	01
Citizen	09
Craig	12
Curtis Mathes	00, 08, 15
DBX	14, 16
Dimensia	00
Emerson	10, 20, 34
Fisher	12, 18, 19
Funai	15
GE	00, 07, 08, 32
Goldstar	09
Hitachi	05, 35, 36
Instant Replay	08
JCPenney	02, 05, 08, 14, 16, 30
JVC	02, 14, 16, 30
Kenwood	02, 14, 16, 30
Magnavox	08, 29
Marantz	02, 14, 16, 29, 30
Marta	09
Memorex	08, 12
MGA	04, 27
Minolta	05
Mitsubishi	04, 27
Montgomery Ward	06
Multitech	07, 15, 32
NEC	02, 14, 16, 30
Panasonic	08
Pentax	05
Philco	08, 29
Philips	08, 29
Pioneer	05
ProScan	00
Quasar	08
RCA	00, 05, 07, 28, 35, 37
Realistic	02, 06, 08, 12, 15
Samsung	07, 32
Sanyo	02, 12
Scott	04, 13
Sears	02, 05, 18, 19
Sharp	06, 24
Shintom	31
Sony	17, 26, 38
Sylvania	08, 15, 29
Symphonic	15
Tashiko	09
Tatung	30
Teac	15, 30
Technics	08
Teknika	21
Toshiba	05, 13
Vector Research	14, 16
Video Concepts	14, 16
Wards	06, 25
Yamaha	02, 14, 16, 30
Zenith	11, 17

Note: Refer to the information sheet packed with your remote control for the latest list of brand names and code numbers. Because this list is constantly growing, the information sheet packed with your remote control may be a later version of this list and contain additional brands and/or code numbers.

Programming Remote to Control Audio Equipment

The digital remote control that came packed with your TV is also capable of controlling a compatible audio component.

To program the remote just press the AUDIO button, then press the ID button, then enter the two-digit code number for your brand of audio equipment from the chart below.

1 Refer to the chart below to find the code number that corresponds to the brand name of your audio equipment. If more than one number is listed, you may need to try each one separately to find the one that works.

2 Press the AUDIO button on remote.

3 Press ID button on remote.

4 Press two number buttons (first one, then the other) to enter the code number for your brand of audio equipment.

Note: You must press the two number buttons within three seconds of pressing the ID button.

5 Point the remote at the audio equipment and press the OFF/ON button to test the code number.

- If the right number was entered, the audio equipment will turn on.
- If the audio equipment does not react to the remote, repeat steps 1 thru 5 with another code number.

Operating Notes:

After the AUDIO button is programmed, the buttons described on the next page will operate the basic functions of most audio equipment. Depending on the age, brand, model, and type of audio equipment, some models may not be able to respond to all the function buttons listed. You will want to experiment with each button to determine the exact function for your component.

Audio Equipment	Type of Audio Equipment and Code(s)					
	AMP	AM/FM	CD	TAPE	PHONO	AUX
Ads	01					
AKAI	02,08					
Dimensia		03	07	06	05	04
Dynamic Bass		29	25	26,27	28	
Fisher	23					
JVC	16	30,35	32	33,34		31
Kenwood	17					
Kyocera	09					
Marantz	22					
Mitsubishi	15					
Nakamichi	20					
Panasonic	12	38	36	37		
Pioneer	14	42	39	40,41		
RCA	24	03	07,43,44	06	05	04,54
Sansui			45			
Sherwood	11,13					
Sony	21	49	46	48,53	47	
Teac	10					
Technics		52	50	51		
Yamaha	18,19					

Note: Refer to the information sheet packed with your remote control for the latest list of brand names and code numbers. Because this list of brand names is continually growing, the information sheet packed with your remote control may be a later version of this list and contain additional brands and/or code numbers.

Remote Buttons that Control Audio Equipment

After the AUDIO button is programmed, the buttons described below will operate the basic functions of most audio equipment. Depending on the age, brand, model, and type of audio equipment, some models may not be able to respond to all the function buttons listed. You will want to experiment with each button to determine the exact function for your component.

Remote Buttons That Control Audio Equipment

OFF/ON: Press to turn on component. Press again to turn off. Some components will turn on automatically when you press the AUDIO button.

Number Buttons: Press two numbers to directly select a channel.

ANTENNA: Performs various functions depending on the type of equipment. Experiment with this button.

PLAY: Press to start component playing.

REWIND: Press while component is stopped to rewind tape.

AUDIO: Press this button to turn on the audio component and put remote in "Audio Mode" so other buttons will control the audio component. Press the TV button to put remote back into "TV mode".

CHANNEL: Press to select the next higher or lower channel in the component's channel memory.

VOLUME: Press to change volume level.

PAUSE: Press to pause play or record. To release pause, press again.

STOP: Press to stop whatever the component is doing: playing, recording, rewinding, etc.

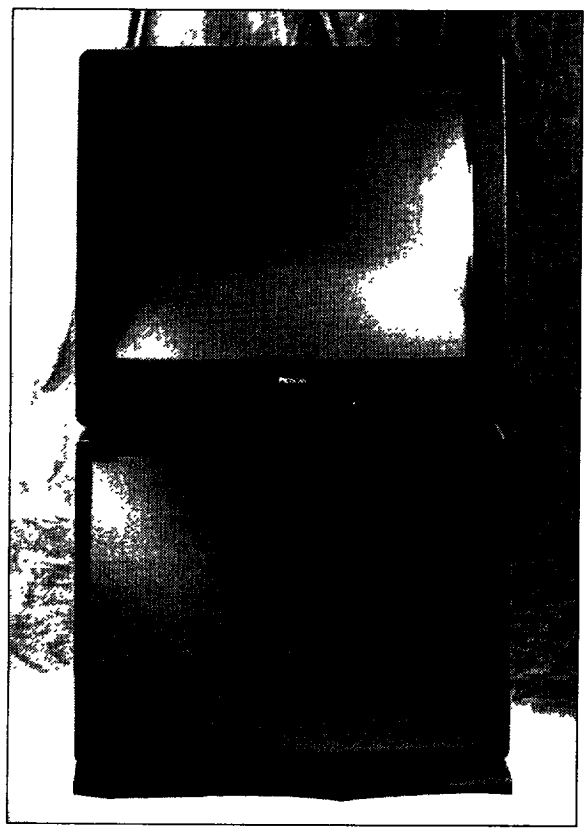
RECORD: Press to start recording.

FF (Fast Forward): Press while component is stopped to fast forward tape.

Optional Stand

An optional stand is also available to enhance the appearance of your system*. The BA2707 stand is designed to match your TV and is available from your local ProScan dealer. **This item is not available by mail order.** To locate your nearest PROSCAN dealer, call this toll-free number: 1-800-PROSCAN.

The stand also includes a built-in shield which prevents interference from components placed on the shelves below the TV. This allows you to place a VCR on the shelf directly under your TV without worrying about interference from the VCR.

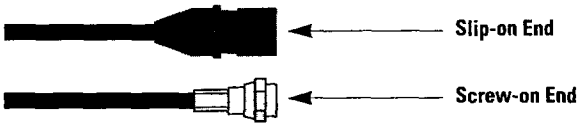


Matching Stand (Model BA2707)

* Appearance and design of optional stand may vary in Canada.

General Cable Information

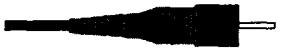
Antenna (or cable-TV) connections are made with either coaxial antenna cable or twin-lead cable. Coaxial cables are shielded so they are less susceptible to hum or interference from adjacent cables.



Round 75-ohm coaxial cable

Flat 300-ohm twin-lead cable

Most audio/video connections between components can be made with shielded audio and video cables that have RCA-type phono connectors.



Standard Audio/Video Cable with RCA-type phono plugs (such as No. AH069G)

Color-Coded Jacks

The jacks on the TV's monitor panel are color-coded for ease of use. The VIDEO jacks are yellow, the right AUDIO jacks are red, and the left AUDIO jacks are white. When connecting components to each other, be sure that you always connect left outputs to left inputs and right outputs to right inputs. If a component has only one output (mono), connect it to the R/MONO INPUT jack.

To connect S-VHS (Super-VHS) components, an S-VHS video cable is required.

S-VHS Cable (such as No 186008 or VAA020)

Gold-Plated Jacks and Gold-Tipped Cables

Your ProScan monitor panel is equipped with gold-plated jacks. The gold plating helps prevent oxidation of contacts which provides much less loss than conventional contacts. A complete line of gold-tipped cables is available to help you obtain optimum performance from your equipment.

The following accessories are available from most ProScan dealers and electronics supply stores in case you want to position your components farther apart or need additional cables.

Antenna Cables

AH037 (3-ft)

Screw-on Cable attaches to the round antenna connectors (called 75-ohm F-type) on the back of your VCR or TV. The ends screw onto the connectors for a secure connection.

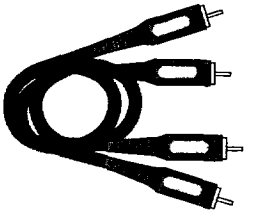
Gold-Tipped Cables
AH065G (6-ft)
AH066G (10-ft)

Push-on Cable attaches to the round antenna connectors (called 75-ohm F-type) on the back of your VCR or TV. Ends push on for a quick connection.

Audio/Video Cables

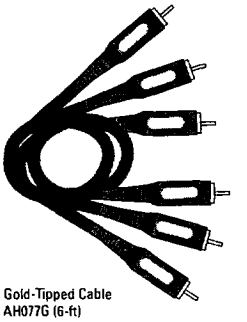
Gold-Tipped Cables
AH069G (3-ft)
AH070G (5-ft)

Audio/Video Cable
Shielded cable for connecting AUDIO and VIDEO jacks. Has an RCA-type phono plug on each end.



Gold-Tipped Cables
AH075G (6-ft)

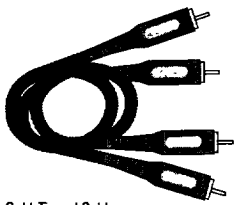
Monaural VCR Dubbing Cable
Double cable that lets you connect the VIDEO and AUDIO jacks of two VHS VCRs to duplicate tapes. Can also be used to connect a VCR to your TV. Cable is color-coded and shielded. Has RCA-type phono plugs on each end.



Gold-Tipped Cable
AH077G (6-ft)

Stereo VCR Dubbing Cable
Triple cable that lets you connect the VIDEO and AUDIO jacks of stereo components.

Audio/Video Cables *continued*



Gold-Tipped Cable
AH072G (3-ft)

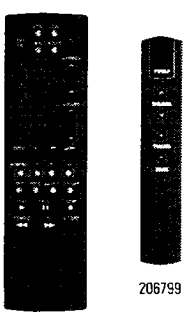
Stereo Audio Cable
Double gold-tipped cable generally used for connecting stereo audio components.

S-VHS Video Cable
186008 (3-ft)
VAA020 (8-ft)

S-VHS Video Cable has multipin connectors on each end for connecting S-VHS components to your TV. When connecting an S-VHS component to the S-VIDEO jack on your TV, remember to also connect the left and right audio cables to the INPUT 1 jacks because the S-VHS cable carries only the picture, not the sound.

PSWH100

Wireless Headphone System PSWH100
Uses RF transmission technology freeing the user from the limits of competitive "line-of-sight" systems. Rechargeable NiCad batteries provide up to four hours of continuous operation and the convenient stand stores and recharges the headset. Volume may be controlled from the headset and the RF tuning frequency may be adjusted for optimum sound performance. Line level audio inputs are compatible with any fixed audio source. The ProScan PSWH100 defines the leading edge in wireless transmission technology.



206799

210826

Remote Controls
This is the remote that came packed with your TV and an optional simplified remote that controls basic functions. Replacements or spares can be ordered as needed.

Detach Here

Accessory Order Form for ProScan TV Models

Description	Part No.	Price	Qty	Total
Screw-on Antenna Cable (3-ft)	AH037	$ 3.95		
Signal Splitter	AH047	$ 3.99		
Gold-Tipped Antenna Cable (6-ft)	AH065G	$ 6.99		
Gold-Tipped Antenna Cable (10-ft)	AH066G	$ 8.99		
Gold-Tipped Audio/Video Cable (3-ft)	AH069G	$ 5.99		
Gold-Tipped Audio/Video Cable (5-ft)	AH070G	$ 7.99		
Gold-Tipped Stereo Audio Cable (3-ft)	AH072G	$ 8.99		
Gold-Tipped Dubbing Cable (6-ft)	AH075G	$ 10.99		
Gold-Tipped Dubbing Cable (6-ft)	AH077G	$ 14.99		
VCR Connection Kit (page 36)	AVH500	$ 32.95		
Wireless Headphone System	PSWH100	$199.95		
S-VHS Video Cable (8-ft)	VAA020	$ 29.95		
S-VHS Video Cable (3-ft)	186008	$27.55		
Remote Control (CRK60A)	206799	$ 28.05		
Remote Control (CRK62F)	210826	$ 67.90		
Antenna Mixer (page 33)	193984	$ 10 73		
Antenna Mixer (page 33)	197551	$ 10 95		

Prices are subject to change without notice

Total Merchandise ($10 Minimum Order) ..... $ _____

Sales Tax ..... $ _____

We are required by law to collect the appropriate sales tax for each individual state, county, and locality to which the merchandise is being sent.

Shipping, Handling, and Insurance ..... $ 5.00

Total Amount Enclosed ..... $ _____

Use VISA or MasterCard preferably.
Money order or check must be in U.S. currency only.
No COD or CASH

All accessories are subject to availability.
Where applicable, we will ship a superseding model.

Please complete other side also

Accessory Order Form

Charge your order on your VISA or MasterCard by filling in below

USE YOUR CREDIT CARD

IMPORTANT: Copy complete account number from your VISA card

VISA

☐☐☐☐ ☐☐☐☐ ☐☐☐☐ ☐☐☐☐

My card expires: ☐☐ ☐☐

IMPORTANT: Copy complete account number from your MasterCard

MasterCard

☐☐☐☐ ☐☐☐☐ ☐☐☐☐ ☐☐☐☐

Copy Number above your name on MasterCard ☐☐☐☐ My card expires: ☐☐ ☐☐

AUTHORIZED SIGNATURE

Prices are subject to change without notice.

PLEASE Print or type your name and address clearly. This will be your mailing label.

A complete and correct order will save you days of waiting.

Name: _____

Street: _____

_____ Apt: _____

City: _____

State: _____ Zip: _____

Please make sure that both sides of this form have been filled out completely.

To order accessories, contact your local ProScan Dealer. If a dealer is not nearby, you can also follow the instructions below to order by telephone.

United States and Canadian Orders

To place your order by phone, have your Visa or MasterCard ready and call the toll-free number listed below between 8AM and 8PM Eastern Standard Time. **Use this number only to place an order for accessory items listed on this order form.**

1 – 800 – 338 – 0376

Most times your order will be shipped UPS within 72 hours of receipt. If ever it is not possible to ship within 30 days, we will notify you with an update on your order and an option to cancel.

To place your order by mail, detach and mail the completed order form with credit card information, money order, or check in U.S. currency (made payable to Thomson Consumer Electronics, Inc.) to the following address.

ProScan Video Accessories
P.O. Box 8419
Ronks, PA 17573

For more information on these accessories (or current prices), write to the following address:

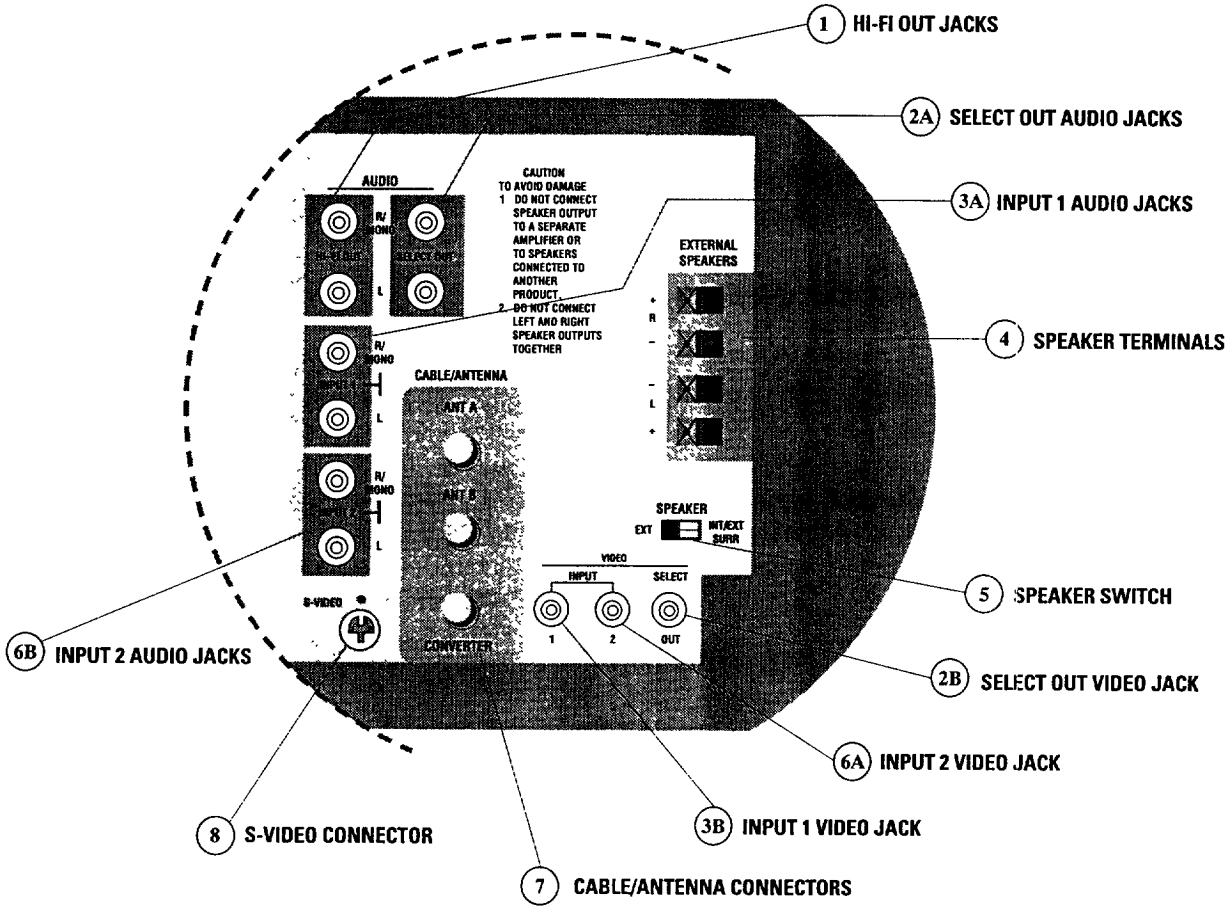
Video Accessories Customer Service
Thomson Consumer Electronics, Inc.
Distributor & Special Products
2000 Clements Bridge Rd
Deptford, NJ 08096-2088

International Orders

This offer is valid only in the 50 United States and Canada. For international orders, please send your request for quotation (not an order) to:

International Customer Service
Thomson Consumer Electronics, Inc.
Distributor & Special Products
2000 Clements Bridge Rd
Deptford, NJ USA 08096-2088

Detach Here



1 HI-FI OUT JACKS feed volume-controlled stereo audio out from whatever is displayed on the TV screen. Allow connection of audio amplifier so you can adjust sound level with TV's remote. *Connection details are on page 43.*

2A 2B SELECT OUT JACKS provide fixed level audio and video output from whatever is displayed on the TV screen (except signal from S-VIDEO connector). Provide standard audio and video signals suitable for recording. Can be used for several applications such as:

- VCR editing with two or three VCRs *(page 39).*
- Recording TV programs onto a camcorder *(page 41-42).*
- Recording cable-TV programs onto a VCR that is not cable compatible *(page 33).*
- Recording audio onto an audio cassette tape recorder *(page 43).*

Notes: Remember that the signal coming out of these jacks is whatever you see (and/or hear) on the TV screen So, whatever you want to record must be displayed on the TV screen during recording. Any menus (video, audio, or setup) or displays such as clock and channel that are on the screen can not be recorded.

To record from an S-VHS component connected to the S-VIDEO connector, you must also connect a video cable to the VIDEO INPUT 1 jack and then select channel 91 on the TV screen.

3A 3B INPUT 1 JACKS provide for direct connection of video devices (like VCRs, camcorders, and laser disc players) or compatible home computers and TV games with video/audio outputs. To see the signals from a device connected to the INPUT 1 jacks, select TV channel 91.

4 SPEAKER TERMINALS permit direct connection of auxiliary speakers. *Connection details are on pages 44-45.*

5 SPEAKER SWITCH

When you connect additional speakers to the SPEAKER TERMINALS on the TV, this switch lets you optimize the sound for the speaker location you choose. If you place the speakers on each side of the TV, put switch in EXT position. The internal audio from the TV's speakers will be muted.

If you place the speakers behind the viewer (at the back of the room), put switch in INT/EXT SURR position. This maintains normal volume level of the TV's internal speakers and a surround signal to rear speakers.

Details about connecting speakers to the TV are on pages 44-45.

Important: Always place switch in INT/EXT SURR position if no external speakers are used (or if external speakers are ever disconnected).

6A 6B INPUT 2 JACKS provide for direct connection of video devices (like VCRs, camcorders, and laser disc players) or compatible home computers and TV games with video/audio outputs. To see the signals from a device connected to the INPUT 2 jacks, select TV channel 92.

7 CABLE/ANTENNA CONNECTORS are used when attaching either a home antenna and/or a cable-TV system to your TV. *Connection details are on pages 32-34.*

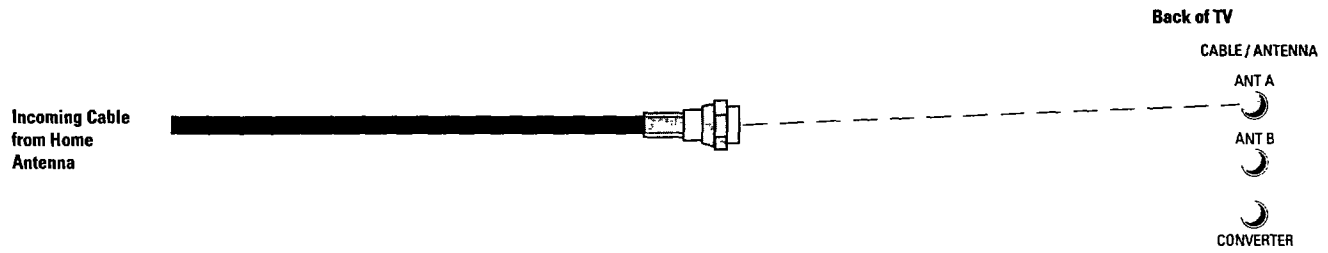
8 S-VIDEO CONNECTOR provides for direct S-VHS video connection from S-VHS VCR or camcorder. Remember to also connect the S-VHS VCRs or camcorder's audio jack(s) to the TV's INPUT 1 LEFT and/or R/MONO audio jacks. This is necessary because S-Video cables only carry the super video (picture), not the audio signal. *Connection details are on pages 40-41.*

To see the signals from a device connected to the S-VIDEO jacks, select TV channel 90.

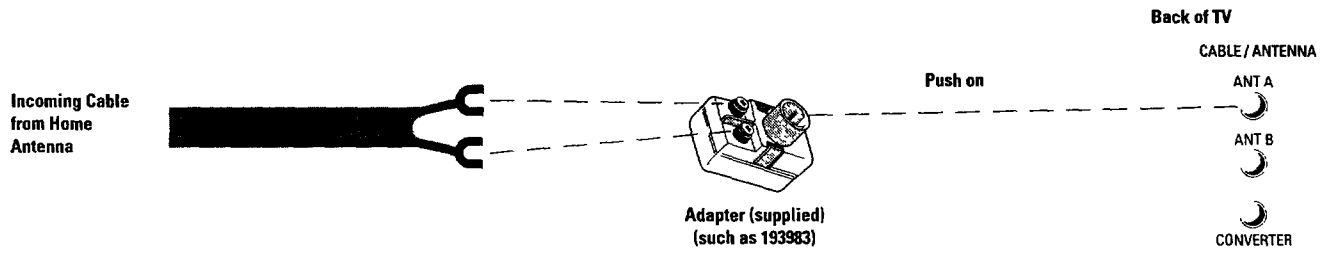
Home Antenna Connections

Follow one of the steps below to connect an indoor or outdoor antenna to your TV *if you do not have a cable-TV system.*

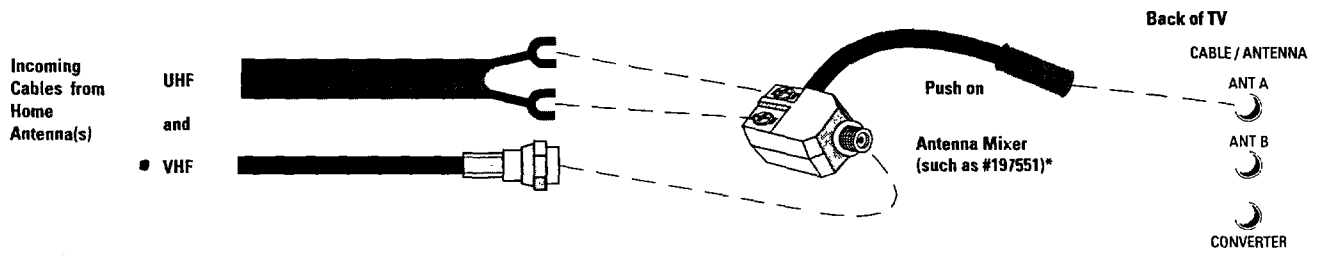
A. If your home antenna cable is a 75-ohm, round, coaxial cable that carries only VHF (channels 2-13), only UHF (channels 14-69), or VHF and UHF channels, connect it to your set like this:



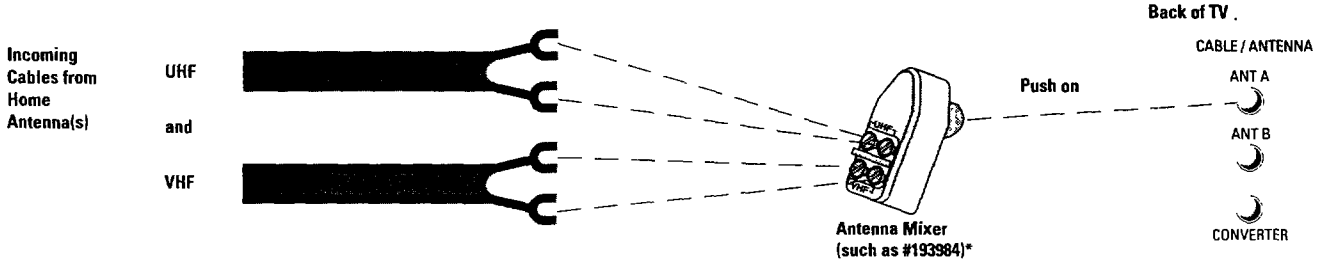
B. If your home antenna cable is a 300-ohm, flat, twin-lead cable that carries only VHF (channels 2-13), only UHF (channels 14-69), or VHF and UHF channels, connect it to your set like this:



C. If your home antenna cable(s) are a 75-ohm, round, coaxial cable that carries VHF (channels 2-13) and a 300-ohm, flat, twin-lead cable for UHF (channels 14-69), connect it to your set like this:



D. If the antenna cables coming from your home antenna(s) are two 300-ohm, flat, twin-lead cables as shown here, connect them to your set like this:



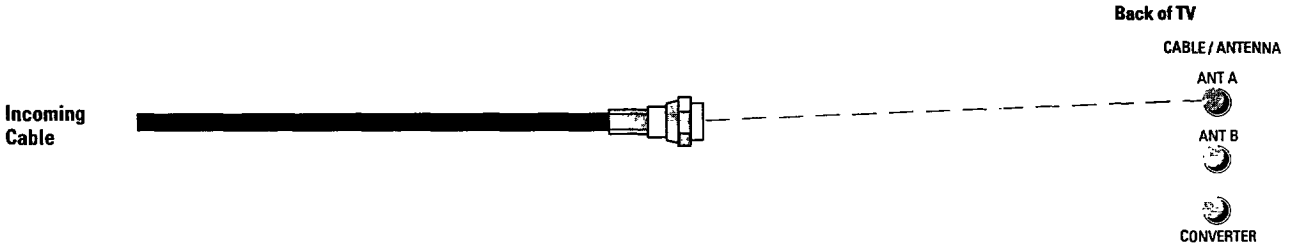
*Optional accessory available from your dealer or electronics supply store. Mail order form is on page 29.

Note: Be sure to connect the UHF antenna cable to the UHF screws on the Antenna Mixer and the VHF antenna cable to the screws marked VHF.

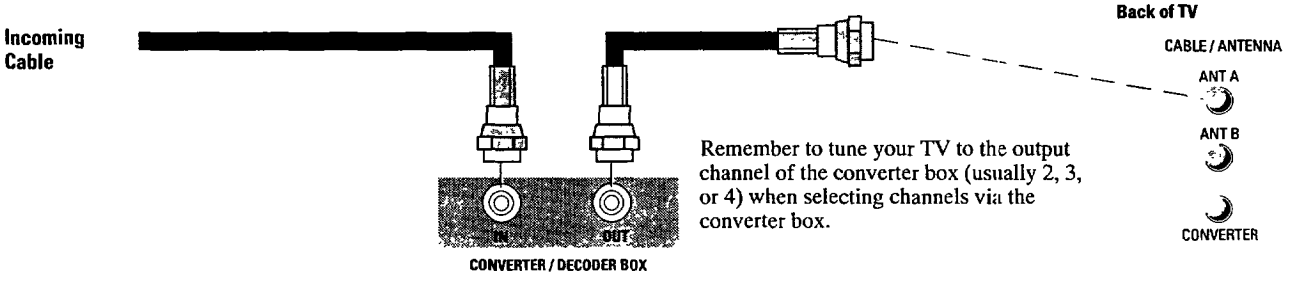
Cable-TV Connections

Follow one of these steps to connect a cable-TV system to your TV instead of a home antenna Since cable-TV systems vary, you may wish to consult your local cable-TV company for additional information.

A. Follow this diagram if your cable company does not require a converter/decoder box (no scrambled channels):



B. Follow this diagram if your cable company requires a converter/decoder box that can be controlled by remote control. Most brands of remote-controllable boxes can be controlled by the remote that came packed with your TV. Details for programming your TV's remote to also control the converter/decoder box are *on page 34.* See diagram D if you want to connect a VCR.


Incoming Cable
Back of TV
CABLE / ANTENNA
ANT A
ANT B
CONVERTER
IN
OUT
CONVERTER / DECODER BOX
Remember to tune your TV to the output channel of the converter box (usually 2, 3, or 4) when selecting channels via the converter box.

C. Follow this diagram if your cable company requires a converter/decoder box that cannot be controlled by remote control:

Scrambled Cable-TV Channels

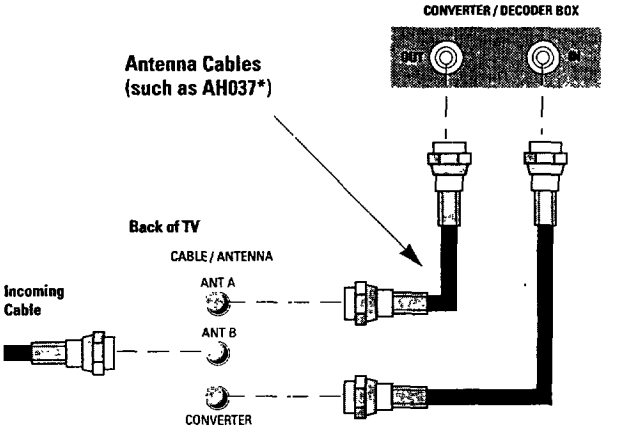
Some cable-TV decoders require that you manually switch from regular to scrambled channels on the decoder whenever you wish to view the premium pay channels. By connecting the decoder to the ANT A input and CONVERTER output on your TV and leaving the decoder box set to the scrambled channel, you can switch between the scrambled and unscrambled channels by using the TV's remote control.

Simply press the ANTENNA button on the remote control to switch between the scrambled and nonscrambled channels.

Each time you press the ANTENNA button, the channel numbers will change color on the screen to show which antenna signal you're watching.

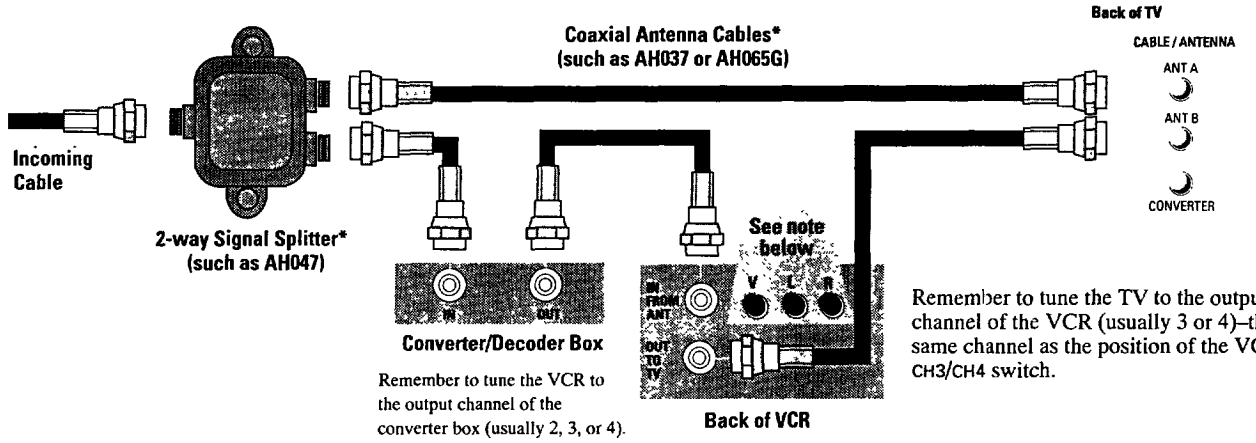
Nonscrambled cable channels will come through the ANT B input whenever the channel numbers are yellow.

The scrambled channel from the decoder box will come through the ANT A input whenever the channel numbers are blue. Be sure to leave the decoder box set to the scrambled channel, and remember to tune your TV to the output channel of the converter box (usually 2, 3, or 4).



*Optional accessory available from your dealer or electronics supply store. Mail order form is on page 29.

D. Follow this diagram if your cable company requires a converter/decoder box for premium channels and you also want to connect a VCR.


Back of TV
CABLE / ANTENNA
ANT A
ANT B
CONVERTER
Coaxial Antenna Cables*
(such as AH037 or AH065G)
Incoming Cable
2-way Signal Splitter*
(such as AH047)
See note below
IN
OUT
Converter/Decoder Box
Remember to tune the VCR to the output channel of the converter box (usually 2, 3, or 4).
IN FROM ANT
OUT TO TV
V
L
R
Back of VCR
Remember to tune the TV to the output channel of the VCR (usually 3 or 4)–the same channel as the position of the VCR's CH3/CH4 switch.

Most cable companies that require use of a converter/decoder box only require the box for scrambled premium channels like HBO or Showtime. All the other cable-TV channels can usually be viewed without the converter box. Therefore, by using a signal splitter, you can send the incoming cable-TV signals directly to the TV and also thru the converter/decoder box and VCR as shown above.

You can easily switch between the signals coming into the ANT A jack and the ANT B jack by pressing the ANTENNA button on the remote control. The channel numbers will change colors to let you know which antenna signals you are watching. When the numbers are blue, you are seeing the ANT A signals. When the numbers are yellow, you are seeing the ANT B signals.

The cable-TV channels that are not scrambled can then be seen whenever the TV is receiving the ANT A signals. The cable-TV channels that are scrambled can then be seen thru the converter box and then thru the VCR whenever the TV is receiving the ANT B signals. Most VCRs will feed the signal thru their antenna jacks even when the VCR is turned off. This allows you to watch scrambled channels from the converter box without having to turn on the VCR.

This connection can be useful because it will let you record a scrambled channel on the VCR at the same time you are watching a non-scrambled channel thru the ANT A jack on the TV.

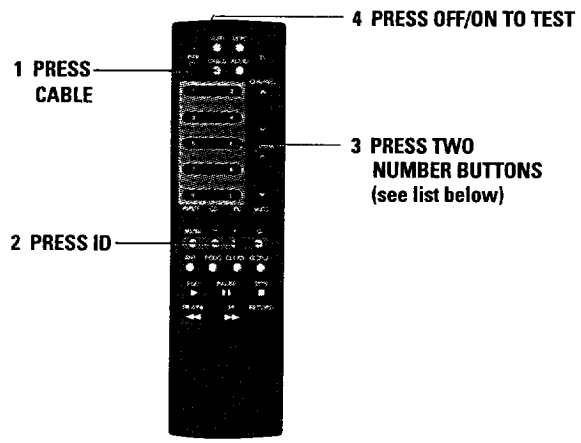
For stereo playback, be sure to also connect the audio/video cables from the VCR to the TV *as shown on pages 37-40.* The VCR must be turned on and tuned to the output channel of the cable box (usually 2, 3, or 4) for stereo playback.

Note: Be sure to also connect the VCR's AUDIO and VIDEO OUT jacks to the TV's AUDIO and VIDEO IN jacks as shown on pages 37-38. The audio/video connections are necessary for stereo playback from the VCR. To see the signals from the VCR that are going into the TV's INPUT jacks, select TV channel 91 if you connected the VCR to the INPUT 1 jacks or select channel 92 if you connected the VCR to the INPUT 2 jacks. Select TV channel 90 if you have an S-VHS VCR connected to the TV's S-VIDEO connector.

Programming Remote to Control Cable Box

If your cable box has its own remote to change channels, you will probably be able to program the TV's remote to control both the TV and the cable box.

The TV's remote is designed to control several brands of cable boxes. To program the remote, just press CABLE, then ID, then the two-digit code number for your brand of cable box. Refer to the chart below to find the code number for your cable box. Press the OFF/ON button next to confirm operation. You may need to try each of the code numbers listed until you find the one that works.



Brand of Cable-TV Box	Code Number(s)
Anvision	07, 08
Cablestar	07, 08
Eagle	08
Eastern International	02
General Instrument	04, 05, 15, 23, 24, 25, 30, 36
Hamlin	12, 13, 34
Hitachi	37, 43
Jerrold	04, 05, 15, 23, 24, 25, 30, 36
MACOM	37, 43
Magnavox	07, 08, 19, 26, 28, 29, 32, 33, 40, 41
NSC	09
Oak	01, 16, 38
Oak Sigma	16
Panasonic	27, 39
Philips	07, 08, 19, 26, 28, 29, 32, 33, 40, 41
Pioneer	18, 20
Randtek	07, 08
RCA	27
Regal	12, 13
Regency	02
Scientific Atlantic	03, 22
Sylvania	11
Teknika	06
Texscan	10, 11
Tocom	17, 21
Unika	31
Viewstar	07, 08, 19, 26, 28, 29, 32, 33, 40, 41
Zenith	14, 42

Note: Refer to the information sheet packed with your remote control for the latest list of brand names and code numbers. Because this list is constantly growing, the information sheet packed with your remote control may be a later version of this list and contain additional brands and/or code numbers.

After the TV's remote is programmed, you'll be able to turn on the cable box by pressing CABLE then ON/OFF. You can change channels on the cable box by pressing the CHANNEL buttons whenever the remote is in the "cable" mode. To put the remote in the "cable mode", press the CABLE button. Press the TV button to put the remote back into the TV mode so the remote buttons will control the TV again.

Programming Remote To Control Cable Box *with remote only*

Refer to the chart at the left to find the code number that corresponds to the brand name of your cable box. Keep this number in mind. If more than one number is listed, you may need to try each one separately until you find the one that works.

1 Press CABLE button on remote.

2 Press ID button on remote.

3 Press two number buttons (first one, then the other) to enter the code number for your brand of cable box.

Note: You must press the two number buttons within three seconds of pressing the ID button.

4 Point the remote at the cable box and press the OFF/ON button to test the code number.

- If the right number was entered, the cable box should turn on. Pressing the CHANNEL buttons should then also change channels on the cable box.
- If the cable box does not react to the remote (or if the remote turns on the cable box but does not change channels), repeat steps 1 thru 5 with another code number.

Operating Notes: After the remote is programmed, it will turn on the cable box whenever you press CABLE and then OFF/ON.
To turn off the cable box, press CABLE, then OFF/ON.
To change channels on the cable box, press CABLE then CHANNEL up or down.

Your new TV is designed to receive up to 181 channels in the U.S.A. including 125 non-scrambled cable channels (see chart at right). To use this TV with a cable-TV system, confirm that the cable-TV system is properly connected to your TV. Since cable systems vary, you may wish to consult your local cable-TV company for additional information.

If your cable-TV company follows EIA/NCTA channel-identification standards, most of the channels offered by your cable company will be identified by channel numbers that are identical to those on your TV. For example, if your cable-TV system has programs on cable channel 20, you can choose this channel by selecting channel 20 on your TV.

If your cable company offers cable channels 90, 91, or 92 you can tune them by selecting the TV channels *shown below.*

If your cable company offers this cable channel:	Tune your TV to this channel:
90	126*
91	127*
92	128*

*To tune cable channels 100 through 128, press and hold number button 1 until 1-- appears on the screen. Then enter the other two numbers.

Some cable-TV companies do not follow the EIA/NCTA standards and instead assign their own channel identification. For example, some use the standard broadcast channel numbers (2-13) for channels 2-13, but identify their other channels with letters. If your cable company does not follow the EIA/NCTA standards, ask them for a cross reference that shows to which channels you should tune your TV to receive their cable-TV channels.

Not all cable-TV channels will be active on your particular cable-TV system. Also some cable companies may require the use of a decoder with their cable-TV system. Consult your cable company or local dealer for details.

Scrambled Cable-TV Channels

Some cable companies offer "premium-pay" channels in which the signal is scrambled. Descrambling these signals for normal viewing requires the use of a descrambler device (cable box) which is generally provided by the cable company.

How you connect the cable box to your TV depends upon whether or not the cable box can be controlled by remote control. The TV's remote can also control most brands of cable boxes, so if your cable box is remote controllable, you will want to connect it as *shown in Diagram B on page 33.* Instructions for programming the TV's remote to control the cable box *are on page 34.*

If your cable box cannot be controlled by remote control, you will still be able to remotely switch between a scrambled channel and unscrambled channels with the connection *shown in Diagram C on page 33 or Diagram D on page 35 .*

The chart below lists the "total" broadcast (off-air) and cable channel count.

Channels	Off Air	Cable
• Low VHF A-8 (Channel 01)	–	1
• VHF (Channels 2-13)**	12**	12**
• UHF (Channels 14-69)	56	–
• Low Midband A-5 thru A-1 (Channels 95-99)***	–	5***
• Midband (Channels 14-22 or A-I)	–	9
• Superband (Channels 23-36 or J-W)	–	14
• Hyperband (Channels 37-64 or W+1 to W+28)	–	28
• Ultraband (Channels 65-94 and 100-125 or W+29 to W+84)	–	56
Total Capability **	68	125

** VHF is only counted once in total channel count because you can receive channels 2-13 on both 'off-air" and "cable" channels. Therefore the total channel count for "off-air" and "cable" is 181 channels (68+125-12=181).

*** Channels 95, 96, and 97 are not applicable in Canada. Therefore the total number of channels for Canada is 178 (68+122-12=178).

Standard VHS VCR (Not S-VHS)

These connections allow you to record TV programs and play back tapes. For picture-in-picture viewing, use the preferred method.

Preferred Method

Shown here is the preferred method of connecting a VCR to your TV if you are in an area with good signal reception. This method uses a 2-way signal splitter to run separate signals to the VCR and TV. This way you can view either TV programs or VCR tapes and not be concerned about the position of the VCR's TV/VCR switch. If your cable company requires a decoder box for premium channels, *refer to page 33.*

Note: The audio/video connections from the VCR to the TV are required for picture-in-picture viewing and for you to watch tapes being played by the VCR.

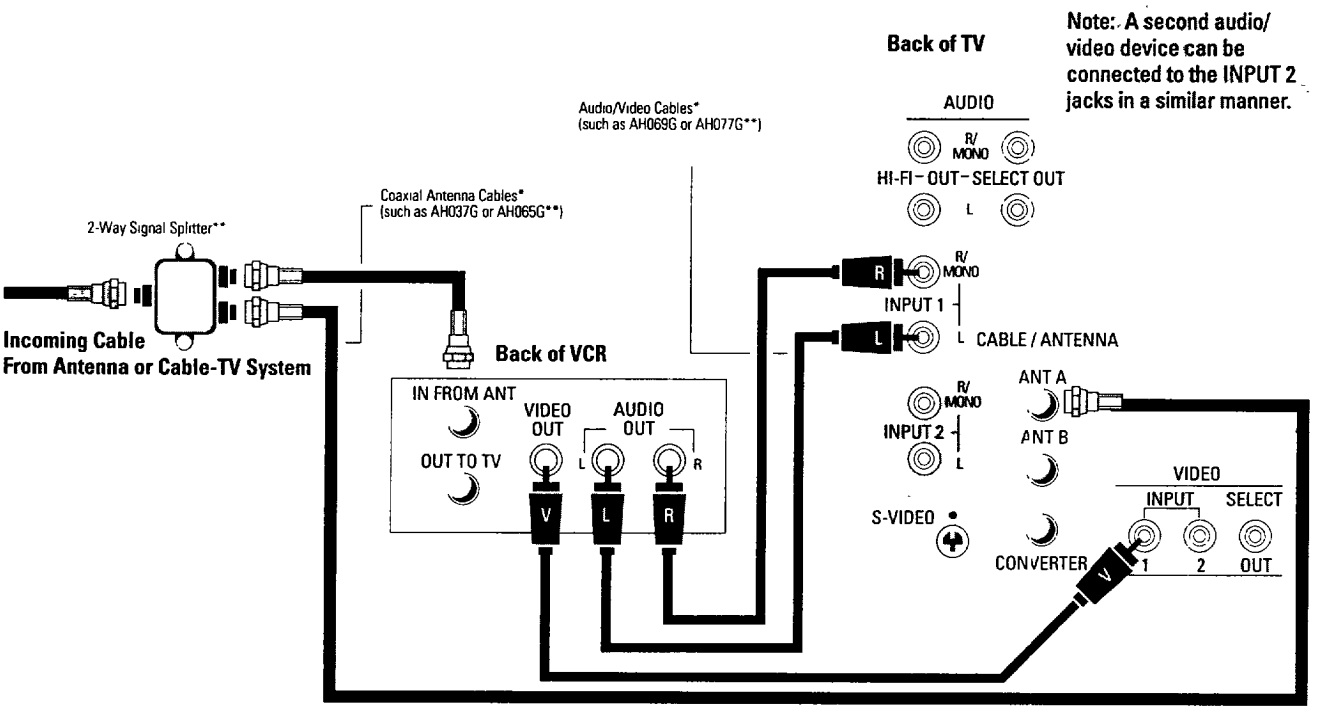
Operation: If the VCR is connected to INPUT 1 jacks as shown, select TV channel 91 to view whatever the VCR is playing.

If you connect a second audio/video device to INPUT 2, select TV channel 92 to view whatever the second device is playing.

Note: You can program your TV to automatically select the proper VCR input channel (91 or 92) when you press the VCR1 or VCR2 button. *Details are on page 20.*

* Optional accessories are available from most dealers and electronics supply stores. Mail order form is on page 29.

** These optional accessories (one AH047–2-way splitter, two AH065G– antenna cables with push-on ends, and one AH077G–triple audio/video cable) are available as a kit under number AVH500.



Simplified Method

Shown here is a simplified method of connecting a VCR to your TV. This method is best for areas with poor signal reception. If your cable company requires a decoder box for premium channels, *refer to page 33.*

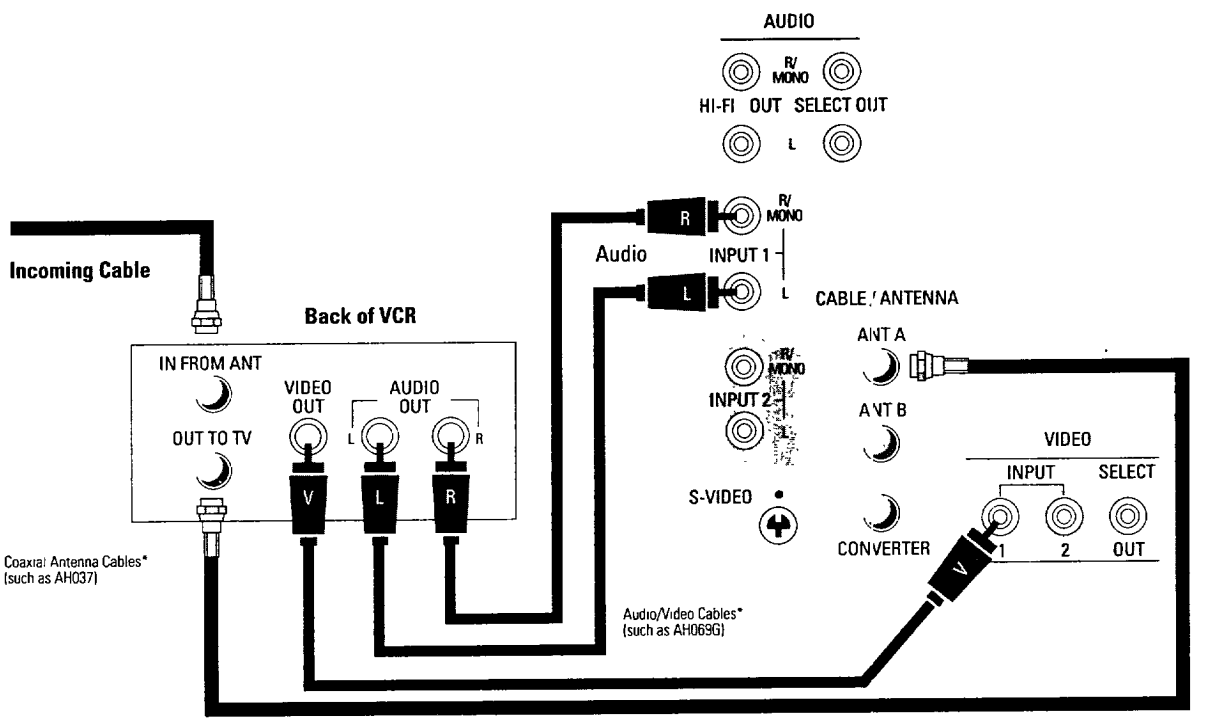
Note: The audio/video connections from the VCR to the TV are optional; however, these additional connections usually produce a better-quality picture during VCR playback. These connections are required, however, for stereo playback from stereo VCRs.

Operation: If the VCR is connected to INPUT 1 jacks as shown, select TV channel 91 to view whatever the VCR is playing.

If you connect a second audio/video device to INPUT 2, select TV channel 92 to view whatever the second device is playing.

*Optional accessories are available from most dealers and electronics supply stores. Mail order form is on page 29.

Note: A second audio/ video device can be connected to the INPUT 2 jacks in a similar manner.



Special Recording onto VCR

This connection only allows you to record on the VCR whatever is currently being displayed on the TV screen except for menus and status displays. This is not a common application for recording with your VCR, but you may find it useful in certain situations. You'll also be able to record signals from another VCR (or similar device) that is connected to the TV's INPUT 1 or INPUT 2 jacks.

The TV must remain turned on during recording. If you change channels on the TV, the channel change will be recorded on the VCR tape unless you pause the VCR during recording.

Because your TV is cable-compatible, this application may be used to record cable-TV programs from the TV onto a VCR that is not cable-compatible.

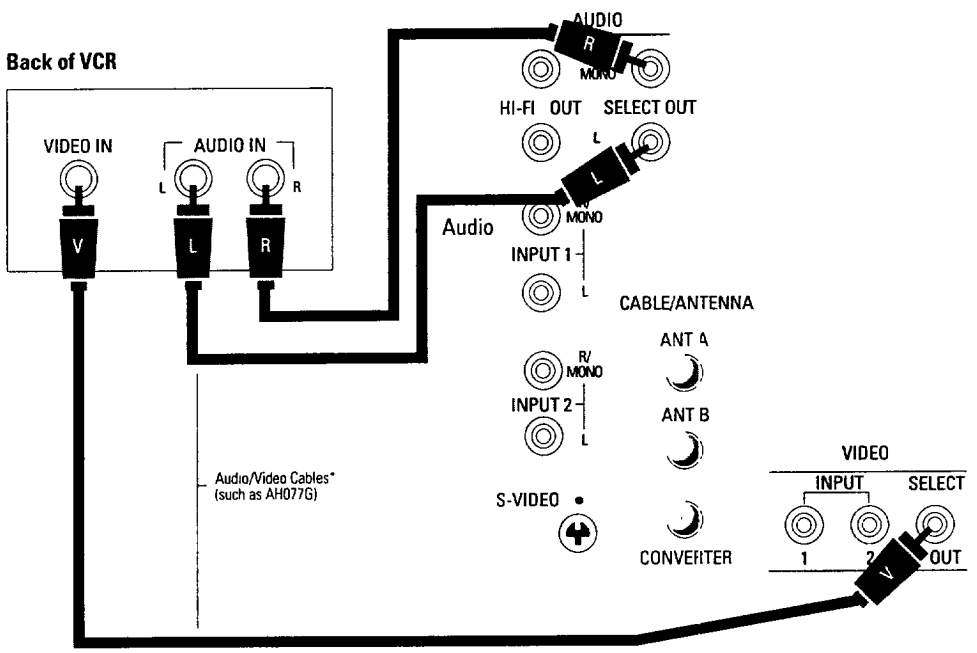
You may also want to use this connection to dub or edit VCR tapes with two or three VCRs. By connecting one VCR (or camcorder) to the INPUT 1 jacks and another VCR (or camcorder) to the INPUT 2 jacks, you'll be able to selectively edit and record whatever is playing on the TV screen onto a third VCR (or camcorder) connected as shown here to the SELECT OUT jacks.

If you connect a surveillance system to your monitor, you'll be able to record what the camcorder is displaying on the TV screen by connecting a VCR (or camcorder) to the SELECT OUT jacks as shown here. To see the signal from a device connected to the INPUT 1 jacks, select channel 91. Select channel 92 to see the signal from a device connected to the INPUT 2 jacks.

To see the signal from a device connected to the INPUT 1 jacks, select channel 91. Select channel 92 to see the signal from a device connected to the INPUT 2 jacks.

Note: Signals from the S-VIDEO connector do not come through the SELECT OUT jacks. To record from an S-VHS component, remember to also connect the regular video cable to the VIDEO INPUT 1 jack and then tune to channel 91.

Menus (video, audio, setup) and displays like clock and channel, and the inset picture in picture-in-picture do not come through the SELECT OUT jacks.



Caution: The unauthorized recording of television programs and other materials may infringe the rights of others.

S-VHS (Super VHS) VCR

This connection allows you to record TV programs and play back tapes. If your cable company requires a decoder box for premium channels, refer to page 33.

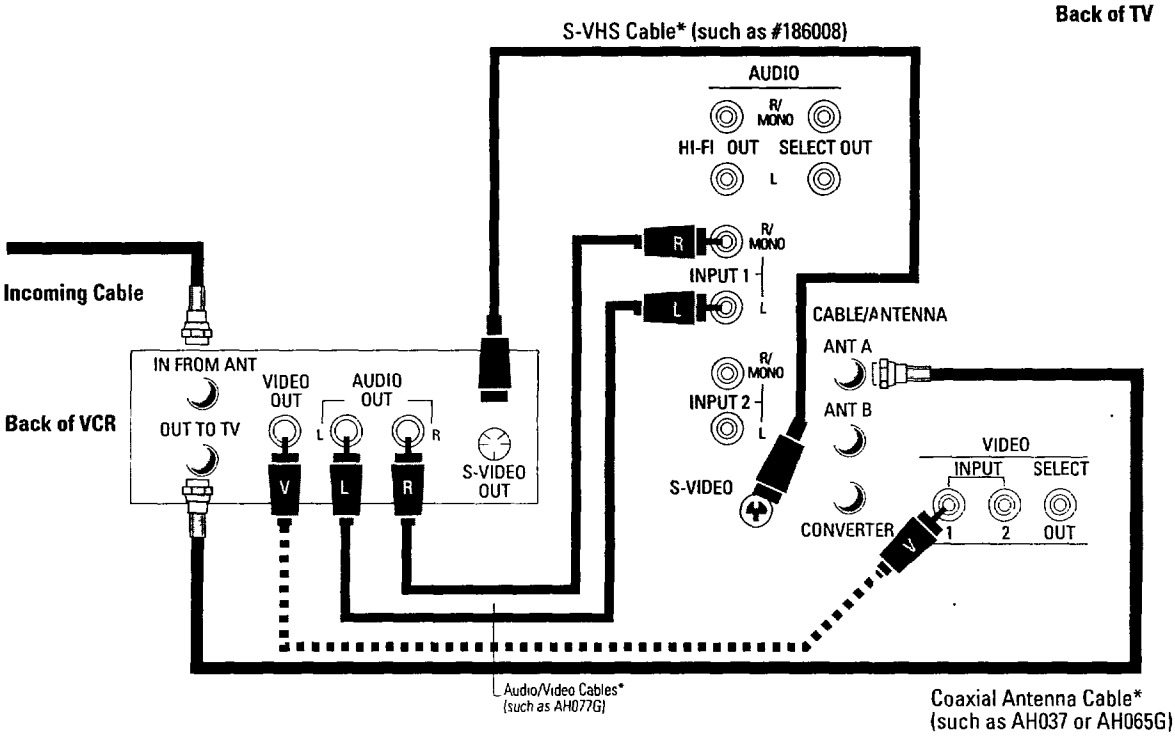
Connect the S-VIDEO OUT connector on the back of the VCR to the S-VIDEO connector on the back of your TV using an S-VHS cable.

Remember to connect the audio cables from the VCR to the INPUT 1 LEFT and R/MONO jacks on the back of the TV. The S-VHS cable carries only video.

Operation: If the S-VHS VCR is connected as shown here, select TV channel 90 to view whatever the VCR is playing. The word S-VIDEO will appear on the TV when you select channel 90. You can program your TV to automatically select channel 90 when you press the VCR1 or VCR2 button. *Details are on page 20.*

*Optional accessories are available from most dealers and electronics supply stores. Mail order form is on page 29.

Note: Remember to also connect the video cable if you want to use the SELECT OUT jacks for recording. When recording from SELECT OUT jacks, tune the TV to channel 91 to see the signal from the S-VHS VCR.



S-VHS or Standard VHS Camcorder

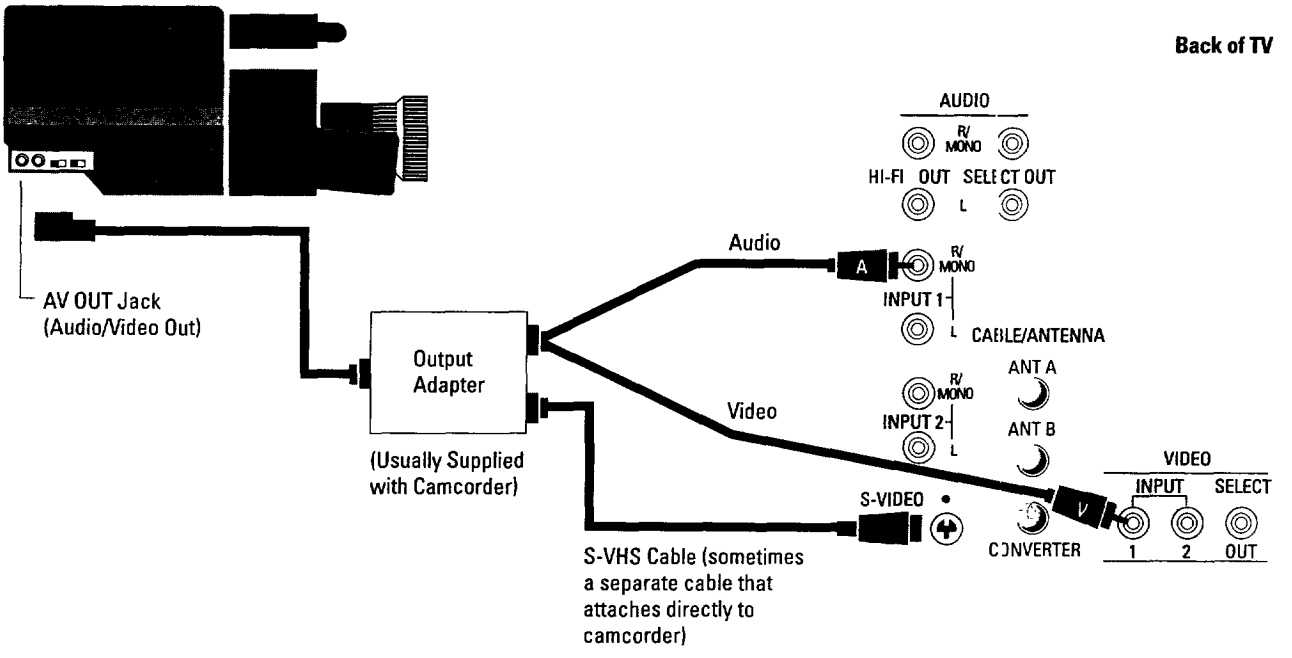
This connection allows you to play back tapes in the camcorder and watch them on the TV.

An S-VHS or standard camcorder can be connected directly to your TV. If you have an S-VHS camcorder, connect the S-VHS video cable to the S-VIDEO connector on your TV. If you have a standard VHS camcorder, connect the video cable to the VIDEO INPUT 1 jack on the back of your TV. With either video connection, attach the audio cable to the INPUT1 R/MONO audio jack.

Operation: If the camcorder is connected to the VIDEO INPUT 1 jack (instead of the S-VIDEO connector), select TV channel 91 to view whatever the camcorder is playing. If the camcorder is connected to the S-VIDEO connector and INPUT 1 AUDIO jack, select TV channel 90 to view whatever the camcorder is playing.

Notes: When the adapter's S-VHS cable is connected to the S-VIDEO connector, the Video plug does not have to be connected. However, you may prefer to plug it in anyway to keep it out of the way. The S-VHS video will automatically override the VIDEO INPUT 1 signal when you select Channel 90.

Be sure to connect the video cable, however, if you plan to use the SELECT OUT jack for recording. When recording from the SELECT OUT jack, tune the TV to channel 91 to see the signal from the camcorder.



S-VHS or Standard VHS Camcorder

This connection allows you to record onto the camcorder whatever is currently being displayed on the TV screen. You'll also be able to record signals from a VCR (or similar device) that is connected to the TV's INPUT 1 or INPUT 2 jacks.

The TV must remain turned on during recording. If you change channels on the TV, the channel change will be recorded on the camcorder tape unless you pause the camcorder during recording.

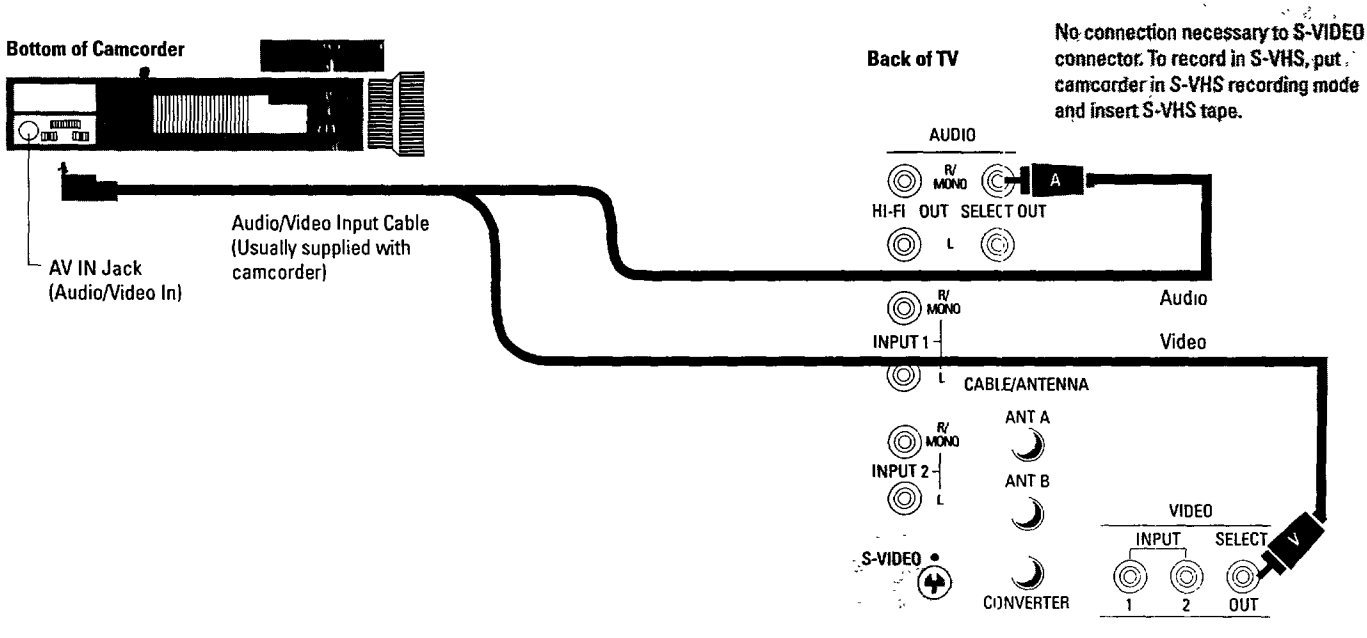
You may also want to use this connection to dub or edit VCR tapes with two or three camcorders (or VCRs). By connecting one camcorder (or VCR) to the INPUT 1 jacks and another camcorder (or VCR) to the INPUT 2 jacks, you'll be able to selectively edit and record whatever is playing on the TV screen onto a third camcorder connected as shown here to the SELECT OUT jacks.

If you connect a surveillance system to your monitor, you'll be able to record what the camcorder is displaying on the TV screen by connecting another camcorder (or VCR) to the SELECT OUT jacks as shown here.

To see the signal from a device connected to the INPUT 1 jacks, select channel 91. Select channel 92 to see the signal from a device connected to the INPUT 2 jacks.

Note: Signals from the S-VIDEO connector do not come thru the SELECT OUT VIDEO jack. To record from an S-VHS component, remember to also connect its regular video cable to the VIDEO INPUT 1 jack and then tune to channel 91.

Any menus (video, audio, or setup) or displays such as clock and channel that are on the screen can not be recorded.



Caution: The unauthorized recording of television programs and other materials may infringe the rights of others

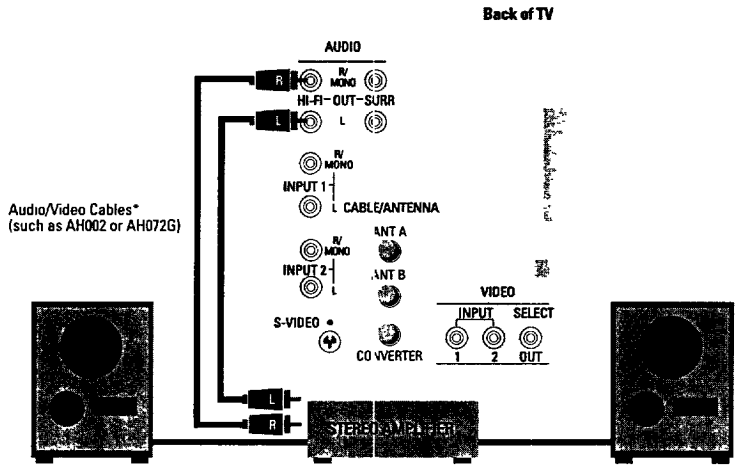
Audio Amplifier

If your amplifier is not part of a "system" that has its own remote, connect it to the TV as shown here. (If the amplifier is part of a system that has its own remote, you may choose to connect it to the TV as shown below using the SELECT OUT jacks.)

With the connection shown here, you'll be able to change and mute volume with the TV's remote control. You'll also be able to remotely control bass and treble functions.

Connection: Connect the "L" and "R" HI FI OUT jacks to the corresponding input jacks on the stereo amplifier (such as AUX, TUNER, or CD). Do not use the PHONO inputs. If your amplifier is not stereo (mono), connect it to the TV's R/MONO jack. Consult the amplifier's owner's manual for the manufacturer's recommended hookup.

Operation: If desired, turn off TV's internal speakers *as described on page 9.* Adjust the amplifier for normal listening. You can also control sound with the VOLUME and MUTE buttons on the TV's remote.



Audio Cassette Recorder or Amplifier

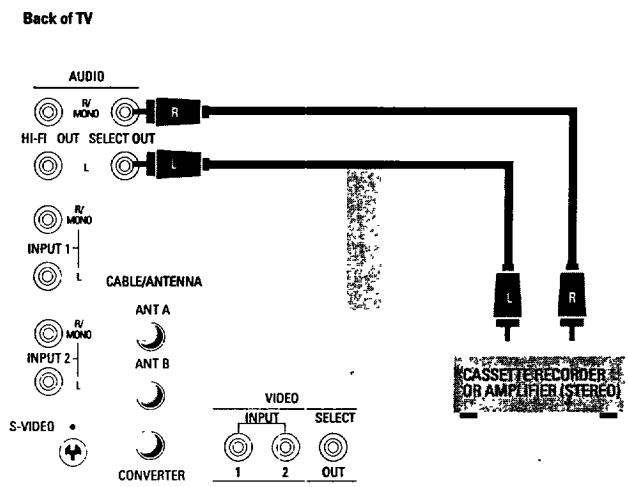
If your amplifier is part of a "system" that has its own remote control, connect it to the SELECT OUT jacks as shown here.

The "fixed level" audio signal present at these jacks is also ideal for connecting an audio cassette recorder to record audio from the TV.

This constant audio signal is not affected by pressing the volume buttons on the TV's front panel or the TV's remote control.

Connection: Connect SELECT OUT "L" and "R" to the corresponding input jacks on the stereo amplifier or audio cassette recorder (such as AUX, TUNER, or CD). Do not use the PHONO inputs. If your amplifier is not stereo (mono), connect it to the TV's R/MONO jack. Consult the equipment's owner's manual for the manufacturer's recommended hookup.

Operation: Select a TV channel and turn down the sound on the TV, or turn off TV's internal speakers *as described on page 9.* Adjust sound with controls on the amplifier or cassette recorder. If the amplifier or cassette recorder is part of a "system" that has its own remote, use the system's remote to adjust sound.



*Optional accessories are available from most dealers and electronics supply stores. Mail order form is on page 29.

LaserDisc Players, Computers, and Other Equipment with Audio/Video Outputs

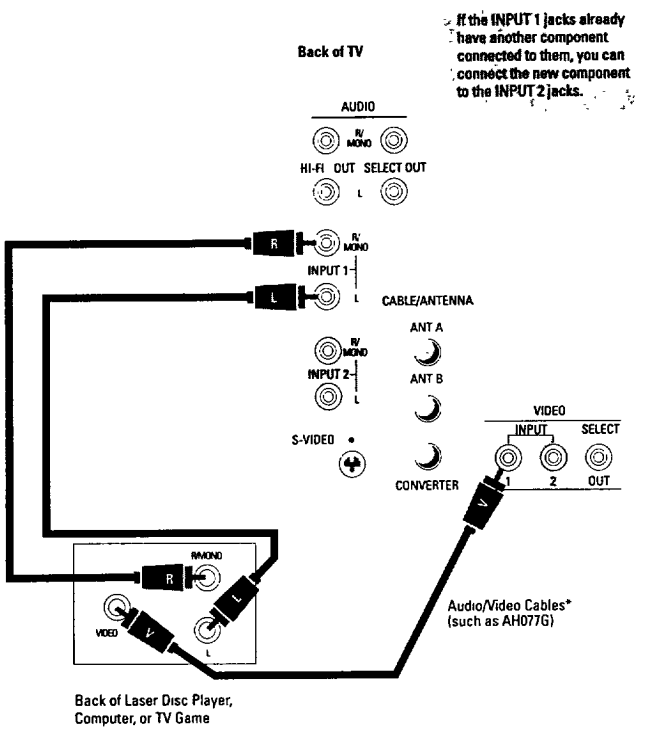
Your TV can also be used as a display device for many laser disc players, video games, and home computers. If your game or computer has a normal NTSC (American Standard) video output, it can be connected directly to either the INPUT 1 or INPUT 2 jacks on the TV as shown here.

If the computer or other device has monaural audio output (only one AUDIO OUT jack instead of L and R), connect it to the TV's R/MONO jack. This will enable the TV to reproduce the sound through both the left and right speakers.

To View Signals From Component

If you connected the component to the TV's INPUT 1 jacks, press the remote's TV button (to address the TV), then 9, then 1. This will switch the TV to the INPUT 1 jacks so you can see whatever signal is coming from the component.

If you connected the component to the TV's INPUT 2 jacks, press the remote's TV button (to address the TV), then 9, then 2. This will switch the TV to the INPUT 2 jacks so you can see whatever signal is coming from the component.



*Optional accessories are available from most dealers and electronics supply stores.

Caution: When using TV games, computers, and similar products with your TV, keep the brightness and contrast functions at low settings. If a fixed (non-moving) pattern is left on the screen for long periods of time at a high brightness or contrast setting, the image can be permanently imprinted onto the screen. These types of imprints are not covered by your warranty because they are the result of misuse.

Connecting Speakers to Back of TV

If you connect an Amplifier or Receiver to your TV, you can connect the speakers to the Amplifier/Receiver instead of the TV.

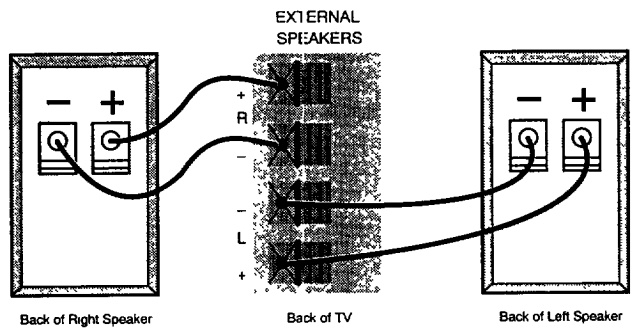
If you do not connect an Amplifier or Receiver to your TV, you can connect external speakers to the back of the TV to enhance sound from the TV.

The diagram below shows how to connect external speakers to the terminals on the back of the TV.

1 If necessary, remove the vinyl covering from the ends of the speaker wire and twist the wire core.

2 Press and hold down the lever of the speaker terminal while inserting the wire core into the hole. Be sure to connect (+) to (+) and (–) to (–) (explained below).

3 Release the lever.

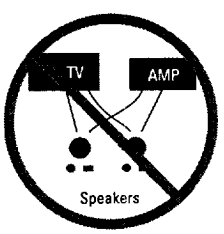


Notes: After releasing the lever, pull gently on the wire and check that it is connected securely to its terminal.

Do not allow the wire core to protrude from its terminal or contact other wires or terminals. If the cores of two wires touch each other, damage to components could result.

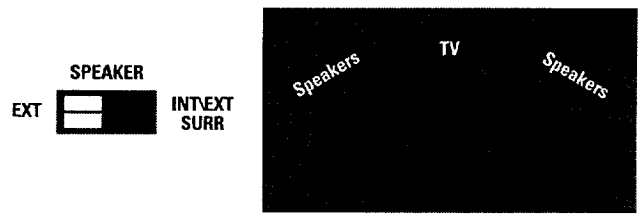
Important: When connecting the speaker wire, make sure you connect the (+) terminal on the TV to the (+) terminal on the speaker. One side of the speaker wire is usually marked with a white stripe to help you connect (+) to (+) and (–) to (–). If the (+) and (–) terminals are not matched properly, the speakers will not be "in phase" causing reduction in low frequencies (bass).

Caution: Do not connect external speakers to more than one audio source at a time. You can connect a set of speakers to either the TV or the amplifier but not to both at the same time. If you connect the same speakers to both the TV and the amplifier (or to more than one set of terminals), you will probably damage your equipment.

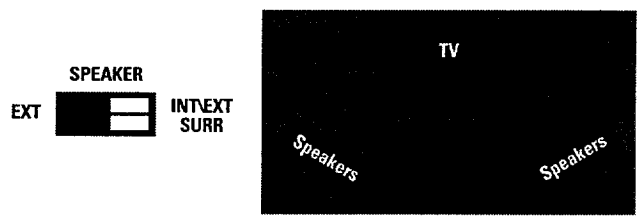


The speaker switch on the back of the TV changes how the TV's amplifier drives the speakers, allowing you to use the external speakers two ways:

To enhance the sound from the TV's speakers, place the speakers in the front of the viewing area (usually beside the TV), and slide the speaker switch to EXT. This provides full power to the external speakers for a "fuller" sound and turns off the TV's internal speakers.



To obtain a "surround sound" effect, place the external speakers in the rear of the viewing area, and slide the speaker switch to INT/EXT SURR. This provides full power to the TV's internal speakers for the front sound and a surround signal to the rear speakers. Do not use SPK060 speakers for this type of setup. They are designed to be used close to the TV.



Helpful Hints: External speakers placed next to the TV will sound better the higher quality they are. Very efficient small "bookshelf" or "compact" speakers will give good results for surround-sound use.

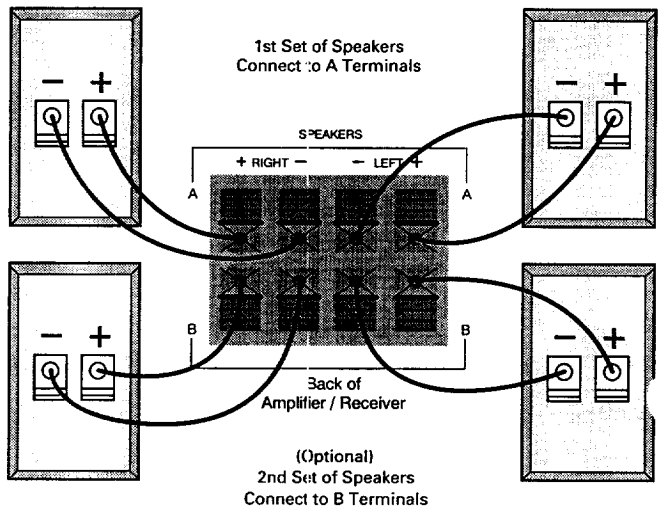
Surround effect can often be improved by experimenting with rear speaker placement.

Surround-encoded movies (broadcast or tape) give the best surround effect, but regular stereo and mono programs will also benefit.

Connecting Speakers to Back of Amplifier or Receiver

If you connect an amplifier or receiver to your TV *as described on page 43*, connect the speakers to the amplifier/receiver instead of the TV. Sound from the TV will then come through the amplifier/receiver and the TV's internal speakers. If desired, you can turn off the TV's internal speakers with the SPEAKERS ON/OFF function *described on page 9.*

The diagram below shows how to connect external speakers to the speaker terminals on the back of a typical amplifier/receiver. Check the owner's manual for your amplifier/receiver if its speaker terminals look different than those shown below.

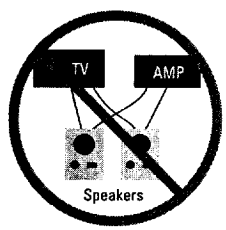


Notes: After connecting speaker wire, pull it gently and check that it is connected securely to its terminals.

Do not allow the wire core to protrude from its terminal or contact other wires or terminals. If the cores of two wires touch each other, damage to components could result.

Important: When connecting the speaker wire, make sure you connect the (+) terminal on the amplifier or receiver to the (+) terminal on the speaker. One side of the speaker wire is usually marked with a white stripe to help you connect (+) to (+) and (–) to (–). If the (+) and (–) terminals are not matched properly, the speakers will not be "in phase" causing reduction in low frequencies (bass).

Caution: Do not connect external speakers to more than one audio source at a time. You can connect a set of speakers to either the TV or the amplifier but not to both at the same time. If you connect the same speakers to both the TV and the amplifier (or to more than one set of terminals), you will probably damage your equipment.



Trouble Checks

Troubles sometimes are caused by simple "faults" that you can easily correct without the help of a service technician by first checking a few basic remedies.

Before you call or take your unit to an Authorized ProScan TV Servicenter, look below for the type of trouble you are experiencing. Then perform the simple checks and adjustments listed for that trouble.

TV will not turn on

- Check to make sure it is plugged in.
- Check the wall receptacle (or extension cord) to make sure it is "live" by plugging in something else.
- Maybe batteries in remote control are "dead".
- Maybe remote control was not aimed at remote sensor.
- Make sure power cord is fully inserted into back of TV.

Controls don't work

- If using remote control, make sure remote is in "TV Mode" by first pressing TV button.
- Try unplugging set for two minutes and then turning it on again.
- Make sure power cord is fully inserted into back of TV.

Intermittent or no remote

- Maybe something was between the remote and the remote sensor.
- Maybe the remote was not aimed directly at the component (TV or VCR) you were trying to control.
- Maybe remote is not in "TV Mode". Press the TV button so remote will control TV.
- Maybe batteries in remote are weak or dead. Try replacing batteries.
- Maybe batteries were installed incorrectly. Try replacing batteries correctly.

Turns off while playing

- SLEEP TIMER function may have been activated.
- ALARM OFF function may have been activated.
- Electronic protection circuit may have been activated because of a power surge. Wait 30 seconds and then turn on again. If this happens frequently, the voltage in your house may be abnormally high.
- Make sure power cord is fully inserted into back of TV.

Turns on unexpectedly

- ALARM ON function may have been activated.

ALARM does not turn off TV at correct time

- Check ALARM ON/OFF function. Must be set to ON.
- Check to make sure CLOCK function is set to the correct time.

Blank screen

- Maybe Channel 90, 91, or 92 is selected, but device connected to those INPUT jacks is not turned on.
- Try another channel.

No sound, picture okay

- Maybe sound is muted. Try pressing VOLUME up button to restore sound.
- Maybe TV's speakers are turned off. Check SPEAKERS ON/OFF function.
- If using channel 90 (S-VIDEO input) with an S-VHS component, remember to also connect the component's L and R AUDIO OUT jacks to the TV's L and R INPUT 1 jacks.

Can't select certain channel

- Channel may not be in Channel Memory. Try pressing two number buttons.
- If using a VCR, check to make sure the TV/VCR switch on the VCR is in the correct position.
- To select cable channels 100 through 128, press number button 1 until 1-- appears. Then press the other two number buttons. The CABLE/AIR function must be in CABLE mode to select channels higher than 69.

Noisy stereo reception

- May be a weak station. Use AUDIO button to change STEREO/SAP function to MONO mode instead of STEREO.

No picture, no sound but power light is on

- Maybe someone changed CABLE/AIR function to wrong position.
- Maybe a vacant channel is tuned.
- For Channels 90, 91, and 92, make sure the component connected to those INPUT jacks is turned on in order to see picture.
- If watching VCR (connected only through antenna input), make sure TV is tuned to channel 3 or 4 – same as CH 3/CH 4 switch on VCR. Also check to make sure TV/VCR switch on VCR is in correct position.

Sound okay, picture poor

- Check antenna connections.
- Try adjusting SHARPNESS function to improve weak signals.

Limited Warranty

What your warranty covers:
- Any defect in material or workmanship.

For how long after your purchase:
- One year for labor charges.
- One year for parts.
- Two years for picture tube.

What we will do:
- Pay any Authorized ProScan Television Servicenter the labor charges to repair your television.
- Pay any Authorized ProScan Television Servicenter for the new or, at our option, rebuilt replacement parts and picture tube required to repair your television.

How you get service:
- Request in-home service from any Authorized ProScan Television Servicenter. To identify your nearest Authorized ProScan Television Servicenter, ask your dealer or call 1-800-PROSCAN.
- Show the service technician your evidence of purchase date.

What your warranty *does not* cover:
- Customer instruction. (Your Owner's Manual clearly describes how to install, adjust, and operate your television. Any additional information should be obtained from your dealer.)
- Installation and related adjustments.
- Signal reception problems not caused by your television.
- Damage from misuse or neglect.
- Remote control batteries.
- A television that has been modified or incorporated into other products or is used for institutional or other commercial purposes.
- A television purchased or serviced outside the USA.

Product Registration:
- Please complete and mail the *Product Registration Card* packed with your set. It will make it easier to contact you should it ever be necessary. The return of the card is not required for warranty coverage.

How state law relates to this warranty:
- This warranty gives you specific legal rights, and you also may have other rights that vary from state to state.

If you purchased your television in Canada:
- The Canadian Warranty applies in place of this warranty. A separate warranty for Canada is enclosed with all televisions sold in Canada.

Design Specifications

General Specifications	
Color Standard:	525 line NTSC Color
Chassis:	CTC169, solid state, unitized
Power Requirements:	120VAC + 10%, 60Hz
Power Consumption:	90W average, 140W maximum
Remote Control	
Model:	CRK62F
Transmission system:	Digitally encoded infrared light
Batteries:	CRK62F: 4 AAA Size
Battery Life:	One Year in Normal Use
Power Cord	Type SJT 2
RF Specifications	
Tuning System Type:	Quartz-controlled Multiband Frequency Synthesis
Band Coverage:	VHF channels 2-6, 7-13 UHF Channels 14-69 EIA Cable Channels 1-125 Complete chart is on page 36.
Frequency Coverage:	54-806 MHz
Tuner Type:	Solid State
Channel Access:	Programmable Scan Up/Down Direct Access With Remote
Channel Indication:	On-Screen
Antenna Inputs:	Two 75-ohm VHF/UHF inputs combined
Sensitivity:	15µV, VHF 30µV, UHF
Video Specifications	
Horizontal Luminance Resolution:	up to 560 Lines (from S-VIDEO input) using wideband video source
Black to White Rise Time	75ns
Luminance Bandwidth:	7.0 MHz (from S-VIDEO input)
Video Input:	1Vp-p; 75 ohms; negative sync
Video Output:	1Vp-p; 75 ohms; negative sync
HV @ Zero Beam current	27.5kV Nominal
Audio Specifications	
Frequency Response:	50-20,000 Hz (at rated output)
Stereo System:	MTS Stereo with SAP (Second Audio Program)
Stereo/Mono Switching:	Automatic
Expanded Stereo:	Switchable
Audio Input:	450 mV RMS typical, 1 V RMS maximum
Audio Input Impedance:	Greater than 50 kOhms (Stereo); Greater than 25 kOhms (Mono)
Audio Power:	5 watts/channel RMS into 8 ohms with less than 1% THD
Audio Output	
Selected Outputs:	Output level tracks inputs within +1/-2dB
Outputs To Hi-Fi:	2 V RMS maximum, controlled by volume, mute, bass, treble, and balance
Output Impedance:	Surround and Hi-Fi outputs less than 2,500 ohms
Speaker Type:	Two $2^1/_4$" x 5" High Compliance Speakers
Speaker Impedance:	Internal, 8 ohms (nominal) External, 8 ohms

All features and specifications are subject to change without notice.

Cleaning and Care

The ProScan NoGlare™ picture tube has a special lithium silicate faceplate that virtually eliminates glare. It also includes an anti-static coating to prevent dust buildup, so the screen will require much less dusting than conventional TV screens.

You can clean the TV as required, using a soft cloth or the dusting attachment for your vacuum cleaner. Be sure to occasionally vacuum the ventilation slots in the cabinet to help assure adequate ventilation.

To clean the faceplate (screen) of the picture tube, use a nonabrasive glass cleaner like Windex brand or Glass Plus brand, with a soft cloth. Oily foods like peanut butter can be effectively cleaned from the faceplate with glass cleaners.

Do not use furniture polish on the TV cabinet or faceplate of the picture tube. Because textured finishes are porous, using furniture polish could mar their appearance. They can be easily cleaned with a damp, soft cloth. Furniture polish is probably the most difficult material to clean off a picture tube under normal conditions. To remove furniture polish from the TV screen, use 100% isopropyl alcohol (a component in most glass cleaners) with a soft cloth.

While cleaning, do not allow liquid to run down the screen and inside the instrument. Also avoid placing drinks or vases with water on top of your TV.

When turning the set on after cleaning the faceplate, there may be some rainbow effects if the screen is not completely dry.

Index

Accessories....27-30
Adding Channels to Memory....19
Adjusting for Best Picture....8
ALARM Function....12,15
Amplifier Connections....43
ANT A/ANT B Inputs....7,12,18,32,33
ANTENNA A/B Function....12,18
ANTENNA Button....7,16,32
Antenna Connections....2,31
Antenna Input....15,18
AUDIO Button....25,26
Audio Equipment....24,25,39
AUDIO MENU....3,9
AUTOPROGRAM Function....2,12,18
AutoProgramming....2,12,18
BALance Function....9,11
BASS Function....9
Batteries (Remote)....5
BRIGHTNESS Function....8
CABLE Button....35
CABLE CHAN Function....12,22
Cable Box Channel....21
Cable Box Codes....35
Cable-TV Box....33-36
Cable-TV Chart....36
Cable-TV Connections....2,34
CABLE/AIR Function....12
CABLE/ANTENNA Connectors....2,33-36
Cables....28,29
Camcorder Connections....41,42
Care and Cleaning....48
Caution (TV Games)....8
CHAN CTRL Function....17
CHAN LABEL Function....16
CHAN MEM Function....19
CHANNEL Buttons....4,7
CHANNEL CONTROL....12,17
CHANNEL Function....16
CHANNEL MEMORY....18,19
Channel Labeling....16
Channel Number Display....4
Channels (Cable Chart)....36
CLEAR Button....7,14
CLOCK SET Function....3,12
Codes (VCR Brands)....24
Codes for Cable Boxes....34
COLOR Function....8
Color of Channel Numbers....7,21
Computer Connections....44
CONTRAST Function....8
Controls (Front Panel)....4
CS Button....7
Decoder Box....33,34
Design Specs....48
Erasing Channels from Memory....19
Erasing Labels....16
EXPAND STEREO Function....9,11
EXTERNAL SPEAKERS Terminals....44
F.ADV Button....23
Features....1
FF Button....23
First-Time Operation....2-3
Front Panel Controls....4
Headphone Jack....4
HI-FI OUT Jacks....39
ID Button....22,23,24
INPUT Button....7
Labeling Channels....16
Laser Disc Player....44
Locking Out Channels....17
MENU Button....3,4,7,8,9,12
Monaural Audio....10
Monitor Panel....31
MUTE Button....6
NORM/UNIFIED Switch....23
OFF TIME Function....15
OFF/ON Button....7,22,25,34
ON TIME Function....15
Optional Accessories....27-29
Order Form....29
PARENTAL CTRL Function....17
PAUSE Button....23
PC Button....7
PICTURE RESET Function....8
Picture Memory....8
Pilot Stereo Signal....10
PLAY Button....23
POWER Button....4
Power Cord....2
Power Indicator....4
Precautions (Safety)....Inside Front Cover
PROGRAM Button....23
Programming Channel Memory....2,18,19
Programming Remote....23,26,35
RECORD Button....23
Registration Card....Inside Front Cover
Remote (VCR Control)....23,24
Remote Control (TV Functions)....5,6,7
Remote Control Sensor....4,5
REWIND Button....23
S-VHS Camcorder....42
S-VHS VCR....40
Safety Precautions....Inside Front Cover
SAP Broadcasts....10
SELECT OUT Jacks....31
SET ALARM Function....15
SETUP MENU....3,12
SHARPNESS Function....8
SLEEP TIMER Function....14
SPEAKER Switch....44
SPEAKER Terminals....31
SPEAKERS ON/OFF Function....44-45
Speakers....44-45
Specifications....48
Stereo Broadcasts....10
Stereo Headphone Jack....4
STEREO* Display....10
STEREO/SAP Function....9,10
STOP Button....23
Table of Contents....Front Cover
TAPE SPEED Button....23
TIME SEARCH Button....23
Time Display....3,4
TINT Function....8
TREBLE Display....9
Trouble Checks....46-47
TV Button....6
TV Mode (Remote)....6
UNIFIED/NORM Switch....23
VCR 1 Button....20
VCR 1 CHAN Function....12,20
VCR 2 CHAN Function....12,20
VCR Channel Setup....20
VCR Codes....24
VCR Connections....37-40
VIDEO MENU....3,8
Video Games....44
Video Input Channels....21
Warranty....47
Warranty Registration Card....Inside Front Cover

PROSCAN®

We are committed to your complete satisfaction and viewing enjoyment. Any time you have a question or want information about your ProScan product, call our friendly toll-free number listed below. We're always ready tohelp you (24 hours a day, 7 days a week).

1-800-ProScan

If you would like a copy of this manual in French, please follow the instructions below:

Si un livret d'instructions en français n'est pas inclus avec votre appareil, vous pouvez en obtenir un (indiquer le numéro de modèle, votre nom, et votre adresse) en vous adressant à:

Thomson Électronique Grand Public du Canada
Service des données techniques
6540 Tomken Rd
Mississauga, Ontario L5T 2E9

An RCA Entertainment Product

Thomson Consumer Electronics
600 N Sherman Dr, PO Box 1976
Indianapolis, IN 46206-1976

©1993 Thomson Consumer Electronics, Inc.
Trademark(s)® Registered
Marca(s) Registrada(s)
Printed in U.S.A.
Part Number 1Q57 347-01A